VOLUME SIX APRIL 1919 NUMBER FOUR

SEA POWER

Exploits of the "Little Navy"
Henry C. Ames

Rooting Valor in American Soil
Senator Warren G. Harding

"Mysterieurs"
Fait Garros

Across the Atlantic by Air
Lieut. Carl H. Butman, A. S., U. S. A.



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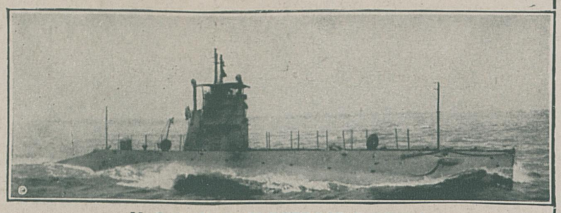

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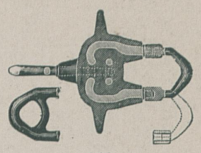

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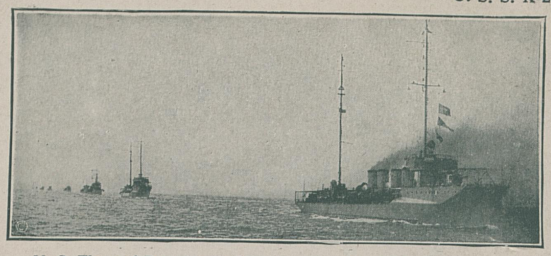

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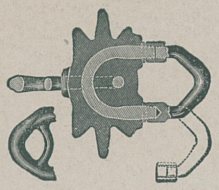

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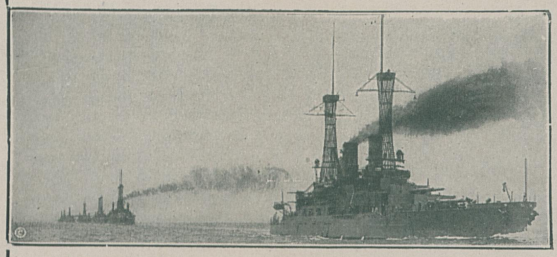

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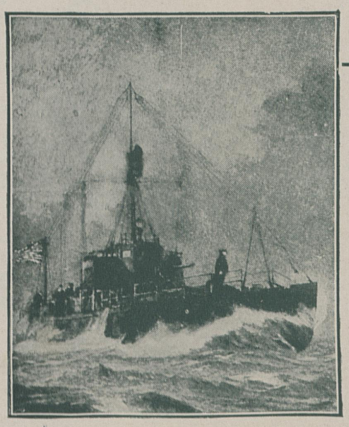

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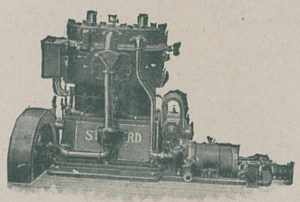

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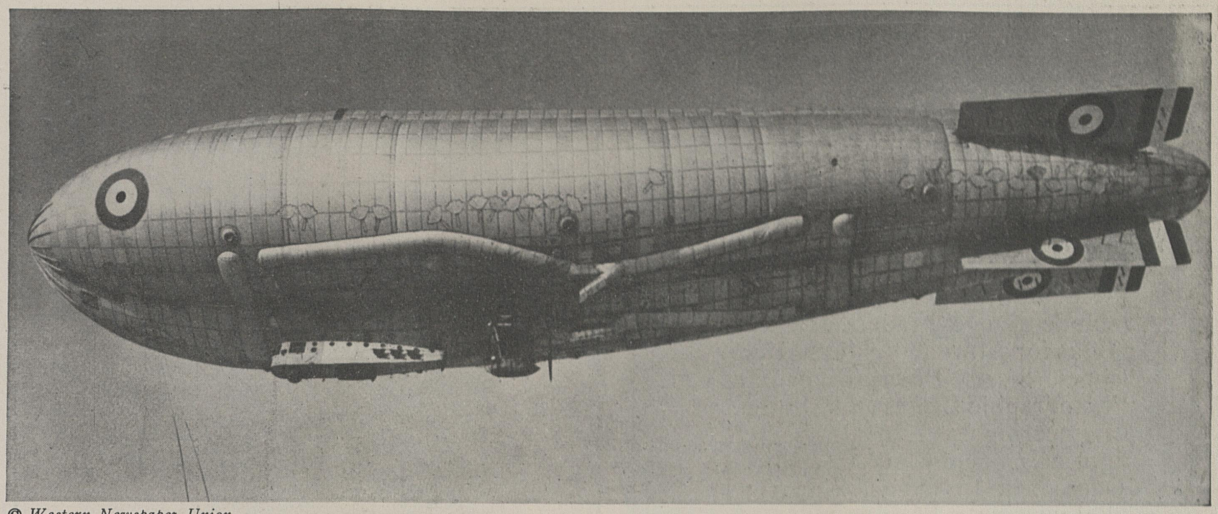

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$3.50 a year. Canadian postage, 50c. Foreign, $1.00

PUBLICATION OFFICE:
501 West Thirty-sixth St., New York City.

Issued monthly by SEA POWER PUBLISHING COMPANY, INC. William H. Stayton, President; B. Reynolds, Secretary; Chas. H. Hall, Treasurer, 1201 Sixteenth St., N.W., Washington, D.C.

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Entered as second-class matter, September 13, 1917, at the Postoffice at New York, N. Y., under the act of March 3, 1879.

EDITED BY CHARLES H. HALL

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EDITORIAL OFFICE:
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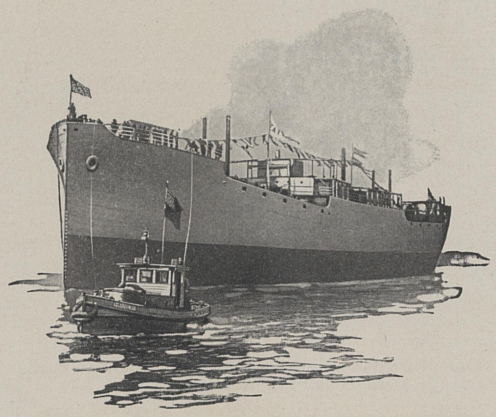

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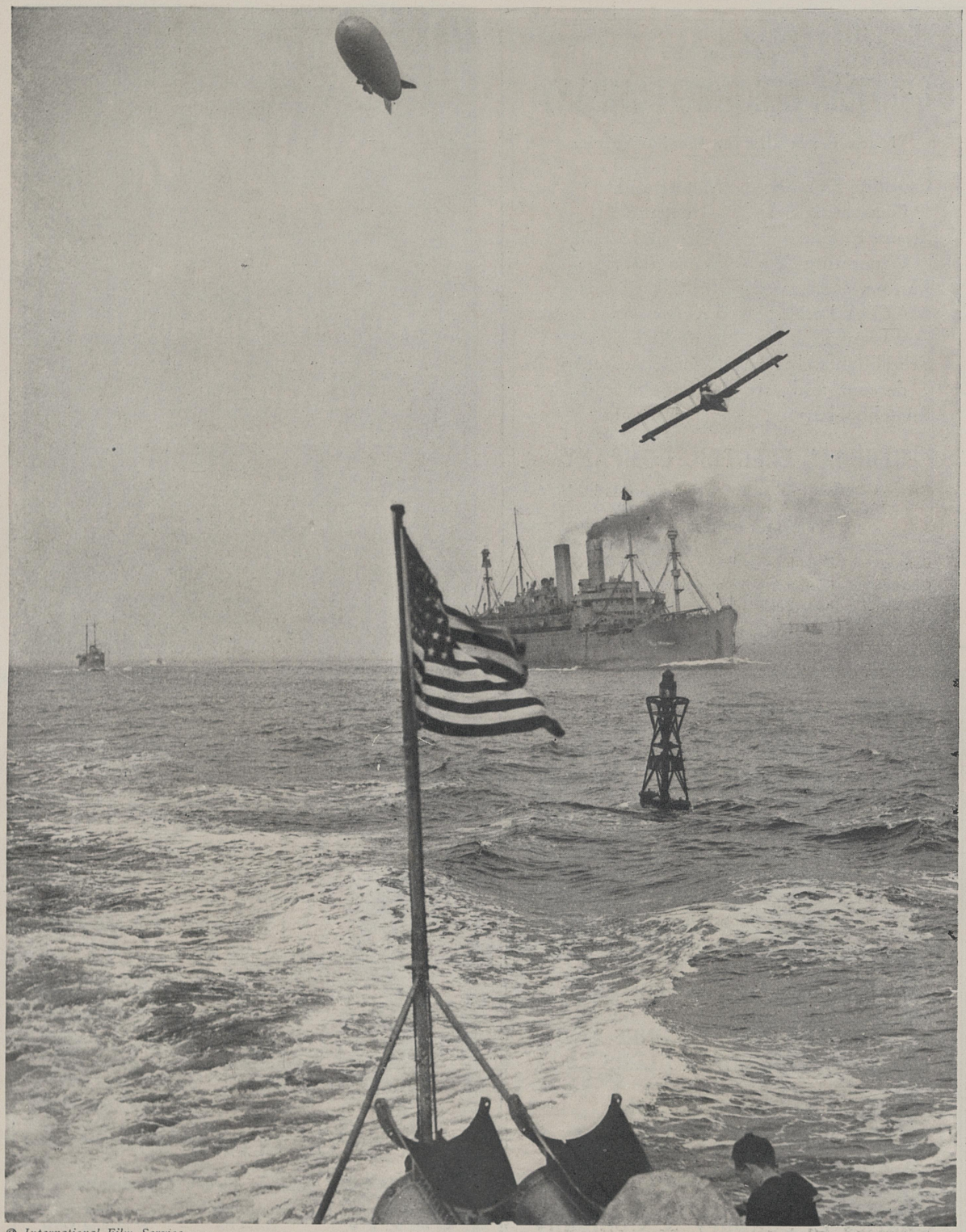

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The transport is escorted by destroyers while seaplanes soar and swoop like gulls and a dirigible jogs along methodically overhead

SEA POWER

Volume VI APRIL, 1919 Number 4

"Mysterieurs"

By FAIT GARROS

"Now pray you consider what toils we endure,
Night-walking wet sea-lanes, a guard and a lure";



THOSE WHO SAILED in England's famous "Q" or Mystery Ships are sometimes called "Mysterieurs." Captain Gordon Campbell, R.N., is the most famous of them all. He and others of his heroic ilk were always vastly accommodating in their confidences to us of the visiting naval forces. But it is not within our province as naval officers to trade upon these tales with the public press. The writer cannot claim authorship of the tale herewith. It is submitted because one of the gallant gentlemen was so amusingly communicative that it seemed a shame not to preserve the body of his talk. With his permission then, and with acknowledgement for the debt, some shorthand notes upon his personal adventures are freely transcribed:

Signing Up

It wasn't the excitement that took us into the game. There was plenty of it, you know, a good deal that might even have been called super-excitement. And it wasn't just the chance of getting a sure crack at Fritz. No, there was something deeper and more coldly bitter that brought the few of us pell mell into Q-ship work the first time we heard it mentioned.

We had been out on patrol. Some of us were of the "Davy Jones Brigade"—subs, that is. Others had been in destroyers and light cruisers. But every one of the first mystery ship outfit had either seen a helpless merchant ship fired upon, or had been close enough to the real facts of the dastardly business to fairly itch to get at the dirty beggars who had played the game so low. Sort of reflection on us, it was. As if we, too, because we were also subbing, might some day take a few pot shots at our enemy's helpless friends when we got the chance.

It was reprisal. And, in war, reprisal is legitimate revenge. So our cause held not only all the righteousness of law, but the goad of a very proper vindictiveness as well. And there was the added feeling that by giving Fritz a lesson we might, in the run of time, save some of our own people's lives.

Secrecy was the great thing in the plan. Even at headquarters only a handful knew anything about our preparations. If the slightest inkling of what was in the wind got to the enemy's camp he would immediately change his tactics —as later he did after he had got into trouble once or twice.

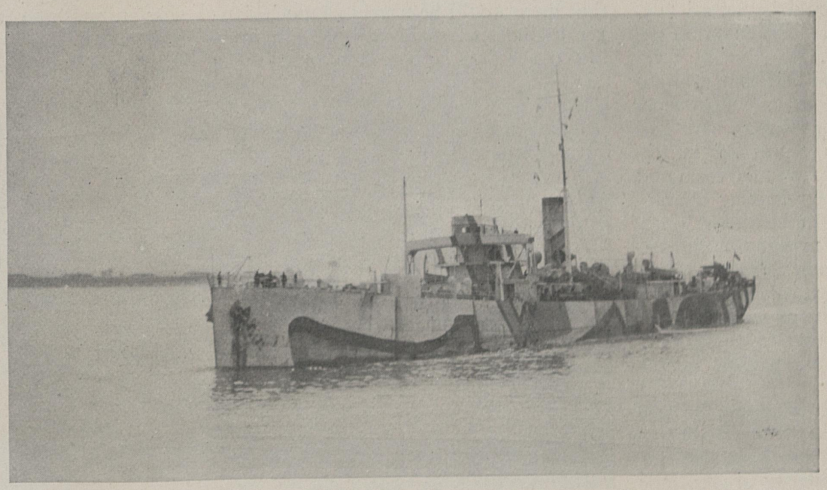
We, in the Service, knew we had spies among our servants at home. They were in the workmen's camps, and even in places we dared not mention above a whisper. Our own personal safety— though it mattered little in the great cause —as well as the success of the plan, lay in keeping the entire matter a complete secret.

Q-ships were a form of bait. The idea was to send out an unassuming looking craft of the merchant class and let her be torpedoed. It was essential that she actually be struck. A selected portion of her crew would abandon ship. Special bulkheads and wooden plugging in her hold would keep her afloat long enough and high enough to permit the few remaining to retain a satisfactory gun platform.

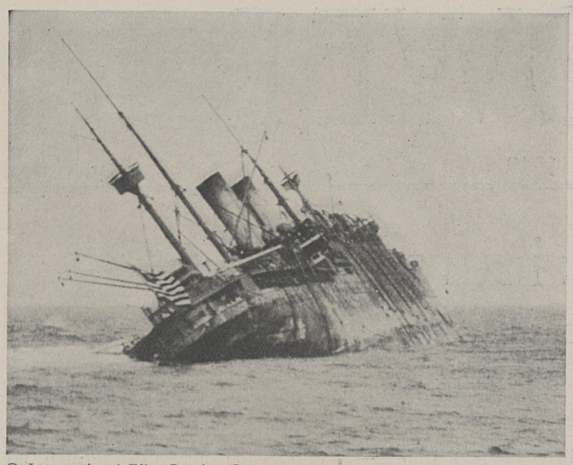
Guns were hidden behind hinged bulwarks. At the proper moment, preferably just when the Hun commenced his usual treacherous attack upon those in the boats, fire would be opened. The range would be pointblank, and there seemed little chance of failure.

It was nothing unusual for the government to take over a small merchant ship, say of 2,000 tons, nor was it of special moment that she should squat meekly alongside a navy yard dock and submit to a few "cargo walls" being put up on deck forward and aft. That guns were slipped inside of these cargo walls was a night act of darkest mystery. No expense nor care was overlooked to prevent the secret leaking out even to the Navy itself.

The skipper picked his own crowd. Each had been given the chance to volunteer for "exceptionally hazardous duty, the nature of which would not be divulged unless the candidate were entirely willing to put up with any form and limit of



A lazy tramp, dawdling along the trade lanes with a cargo of good clean sea water in her tanks to make her look full of the things Fritz was greedy for and—a battery of quick-firing naval guns hidden behind her false sides



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The wireless calls for help from unfortunate merchant ships fairly dinned in our ears but for an interminable time Fritz seemed to avoid us until we feared he suspected our errand

danger and discomfort." Needless to say there were plenty of offers, even though the solicitation was kept almost as quiet as the enterprise itself.

We were ordered to detached duty from our various regular stations and proceeded, still in the dark. I remember wondering if I was billed to go to Germany as a spy. But when I recalled that I had failed my language course at the University I regarded this possibility as eliminated. There had been talk of dropping men into enemy territory from aeroplanes at night and thus forming a small but determined body of troops immediately ahead of a simultaneous land attack. But again I felt that my discrepancies in military science might preclude even that joyful possibility.

Somehow it didn't occur to me that a *coup de la mer* might be in hand. After two years of North Sea and Channel patrol in subs and drifters, any new sort of sea service that could be termed "exceptionally hazardous" seemed out of the question.

We gathered for the first time at night in a small upstairs room quite away from the usual haunts of naval men. We had got quiet orders to report in mufti. There was only one lamp in the room and under it stood a rough-looking character who turned out to be the skipper. As I rather prided myself on my appearance in plain clothes, my mortification may be imagined when I learned that at very first sight of me the others cast an unanimous vote to change my sex. I was to be the woman in the case.

Not knowing exactly what was the case I had some doubts as to my ability to fill the bill. Also I had long been familiar with the singularity of Teutonic chivalry and very quickly I began to suspect that, after all, this duty, whatever it was, might live up to its grim official designation.

"You are signed up," said the leader—he had impressed us with the fact that no longer was he a lieutenant commander in the Navy—"for a period of merchant service. Not only will you wear the clothing, eat the food, and live the life of a trading crew, but you will make every effort to so comport yourselves in both speech and bearing that those with whom you come into contact will never suspect you belong to the naval service."

This didn't sound like much, in the opening thrill of a great adventure. But, I give you my word, when it came to comporting oneself like the hero of one of Mr. Jacob's briny romances, goose-flesh was a mild resentment for the physical body to make!

Take the first morning I went aboard. The old tub was lying in mid-harbor, where she had been towed during the night so as not to awaken suspicion by having her come openly out of the high class chaperonage of the navy yard. A short stout man stopped me near the wharf. He, like myself, was garbed in the rough dress of a deck hand, with sea boots to prove his job still held.

"Mornin', mate," he said affably, and took my arm. "Got a berth?"

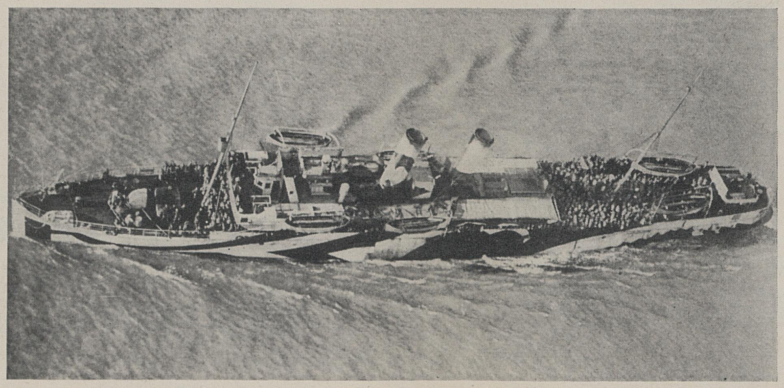
With quite unnecessary emphasis I assured him I had. And it was only with the greatest self control that I kept up my end of the conversation without seeming to be offish. We had been warned that there would be nearly as much danger to the success of the plan in making our status appear too much of a secret as in divulging the whole scheme.

This friend of the moment made me my first offer. All of us had many before we were through with the game. I mean offers to ship in any one of a dozen bottoms. It was a revelation to hear these fellows talk. We in uniform had always thought we knew pretty well what was going on outside. But the wages, for example, that this kindly soul laid before me—one-half cash down, too—were tremendous. He put before me the chance to clean up a hundred pounds clear profit on a voyage to South America, furnish me with a wife upon arrival, and within six weeks find me passage to any port in the Western Hemisphere! All if I would stand a lookout watch on the cruise down.

Fortunately I escaped. I hired a small boat to take me to my ship and put off rather hurriedly. At the gangway I thought I would add to the transfer a bit of realism, so I short-changed my ferryman. Without comment he swung hard at my jaw. I ducked and lost my balance. Before he had time to follow up his attack I produced the extra bob and hastened aboard with the feeling that I had already made great progress in my new role.

We lined up below for inspection. The skipper explained again how after being torpedoed we were to simulate all the details of a sinking merchant ship. In fact, the way he harped upon that torpedoing act made a great impression on some of the lads. I heard two of them arguing later as to whether it were better to curl oneself up in the air after being blown up or to follow the cat plan and by a sharp twist endeavor to land feet first. The dispute faded when someone produced a *Graphic* magazine with a two-page cut in it proving that most life-size explosions can be counted on thoroughly to dismember those in the vicinity so that leg and arm motions while volplaning down must be empirical if made at all.

Several groups were told off. Those



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We saw troop transports plough along, escorted by watchful destroyers and hovering aircraft, carrying Yankee soldiers to the battle ground of France

in the engine room as well as the deck gang contributed to the "panic party" which would leave the ship in great haste immediately after she was struck. One or two would remain below to keep steam if possible. Crews for each gun and the fire-control group were vital to the plan. And at least one or two lookouts would keep their positions for reporting movements of the submarine over the ship's telephone we installed.

Of course the skipper would be on the bridge. He found out later that he had to lie on his belly there in order to keep out of sight. At the proper moment, when the sub came up to open hatches and send a boarding party, the cargo walls would be dropped by electric releases and the battery open fire.

The plan sounded simple enough at first. In fact, some of us rather resented the station bills that were issued because they provided for considerable drill. Why it should be necessary to practice a perfectly obvious maneuver was not within our rather mediocre comprehensions. Later, when the time came to act, our stage fright there before the audience of that one silly looking little periscope made us wonder how we did so well even after long drilling.

Before we went any further, the skipper said, we should have to revise our costume a bit. It wasn't sufficient just to look seagoing and rough. There must be a definite line between the skipper and his mate, between the mate and me, and between me and the remainder of the crew. The Hun is a thickhead in many ways, but this was a game after his own heart and he would be quick to notice any defects in accoutrements.

We blew ashore in twos and threes for the purchase of further disguise. I shifted the woman's part off on a little coxswain, who seized on the opportunity with a true sailorman's avidity to try something new. For the sake of caution I went with him to a small shop which had a good display of cheap millinery and women's suits in the windows.

Somewhat to my mortification the coxswain demanded hosiery first of all. "Pink uns," he said, as if it were the most natural thing in the world. Perhaps it was for him, for he unblushingly bought two pairs that had green stripes near the tops and other advantages which I failed to appreciate at the time.

The coxswain's self-assurance carried him a mite too far in the end. He gained a parting shot from the saleslady to the effect that "fighting men weren't askin' the country to buy such things for their wimmen folk these days. But *slackers*—". As the coxswain showed signs of waning self-control I quickly slammed the door and led him away. A block further on he purchased a likely frock for his "wife in Holyhead."

The skipper, mate, and I treated ourselves respectively to a brown derby, a visored cap, and a Scotch bonnet. These, we had observed, were strictly in accordance with our relative rank in merchant ship organization. Our suits already exhibited proper degrees of wear, with the exception of my own, which was to be oiled up a bit and patched to give it a touch of the engine-room atmosphere.

On our return there was something of a commotion forward due to rivalry that had been set up in the way of personal eccentricity of garb. But the skipper only smiled and told us to "wait until we had a drill or two."

In the next few nights we found out right enough what he meant. The panic party came first in roughness. Any seaman is quick to notice how speedily a boat is lowered. Our aim was to lower both boats in the most unseamanlike manner possible. This necessitated letting the forward fall go with a run. A fair enough ruse in a calm, this was, but not one to be attempted when any sort of sea was running. On the other hand, we could not pick our weather for the jamboree when it came. The skipper's idea was that we should become supremely skillful in being unskillful, which is exceedingly difficult.

At first there were plenty of accidents in these panic drills. They had to be carried on at night lest we be spied upon and there was a natural awkwardness in doing everything backwards that had to be got out of all our systems. That little matter of letting the forward fall go with a run twice nearly cost the life of the bowman. And the "lady" persisted in handling herself with the most unladylike alacrity, until we felt she would shame even a Hun with her immodesty.

It was during the development of the panic party technique that someone conceived the idea of having a second panic party. It was assumed that when we hoisted our white ensign and opened up on the submarine our defiance would appear to have reached its limit. But if, perchance, the range were too great for effective fire, or through some miscalculation the Hun were to get at us with his own guns, we might have to capitulate after all.



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Fritz was a still hunter. He knew when he could sidle up to a kindly old tub, shoo her slinking inmates into their boats, stock himself up with luxuries, and then "let her down" with an economical bomb or two

Still, it was a desperate game. There could be no quarter on either side, for it was the doctrine of "no quarter" against which our artistic little demonstration was to be aimed. So the skipper planned to have the next officer in command give a second party of consternation across the now shell-torn deck and lead a fitting and apparently final stampede overboard by a small catamaran swung aft. With the skipper and a gunner or two aboard there still would be considerable kick left in the old wreck.

Getting Out

After some months as civilian sailors we got used to the difference between a vagabond's life and that in the hidebound navy. At the beginning we seemed pursued by people who solicited our interest in all sorts of queer things. There was a patent medicine known as "Dragon's Blood" that was guaranteed to cure everything under the sun from warts to lunacy. We could have painted



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We were rather a hard looking lot when we finally got our disguises perfected, without a trace of the spick and span neatness of the man-of-war's man about any of us

the ship with it had we been inclined to buy a bottle every time we had a chance. There was an interminable series of labor delegates, both official and unofficial. There were strange individuals who sought passages for the strangest reasons imaginable—one, an ethnologist, begged us to take him over in order that he might complete his study of the American Indian! And there were people that we strongly suspected of being enemy sympathizers. But the great danger in even demanding their credentials was that we might arouse some public interest in our own identity and ruin everything.

After unspeakable tribulation of this sort, much of which is far more amusing now than it was then, we gave the ship a final inspection for stowaways and put to sea.

Our looks were nothing to be vain about. The sides were purposely streaked and stained and the upperworks rusted in about every place we dared let them rust. As the housing over the guns must look natural we rigged a Charley Noble (kitchen chimney) which made a good shaft for a periscope. Certain other construction work was put in about the decks to make room for observers and fire-control parties. In every instance we camouflaged the wall or pipe, whatever it was, to make it appear as some common part of the ship.

Not a few merchant ships carry live chickens and pigs as a reserve food supply. One old South American freighter that lay near us in the harbor had a cow aboard. The next day after we discovered this interesting piece of nautical zoölogy a resourceful member of our crew came to the skipper with the suggestion that he be permitted to purchase a cowskin and head from the local butchers and rig himself up in it. His idea was that he might be tethered aft during a submarine's approach and at the psychological moment, when the Hun commander stuck his head out of the conning tower, cut loose with a rifle aimed through the dead cow's mummified larynx. Our skipper commended the man highly on his genius but gave him to understand that it would be far from fair to put within the power of any single man to seize such honor uncontended.

We quickly found that a commercial vessel has some little points all her very own. A submarine may be famous for its "frowst" and a destroyer or drifter may cause even sturdy souls to shudder at the energy of a half-gale off the Lizard. But a fighter at sea is like the fighter ashore in the way of keeping in condition. Navy yards are training camps and hospitals and in their shops are the finest marine surgeons in the business.

The poor old cargo boat has none of these in her long, hard life. Only in the face of death are her seams recaulked or the crannies of her vermined decks examined by a practiced eye. And even then the odds are that eye will be too watery to see on account of the strain the nose under it is suffering.

We had been rebuilt so that we were calculated not to sink even if torpedoed. But even that did not console us for the everlasting swish of bilge water in our leaky bottoms. And there were dark days when certain forms of death were preferable to the lingering fate we faced at the hands—or mandibles—of a certain tribe of cannibals known and feared by every housewife in the land.

The popular idea is that we made a still hunt out of our cruise. But the skipper's words about "comporting ourselves" in the manner of the cargo trade held, even to the manner of the course we steered.

Fritz is not a daring warrior. He is a still hunter himself. In the long months of his campaign he had studied the shipping he had met. He knew, we'd long since found out, what was small fry and what were Spanish galleons. He had a fair idea when he'd meet armed resistance and when he'd meet only moral resentment. And, what was important oftener than we guessed, he knew when he could sidle up to a kindly old tub, shoo her slinking inmates into their boats, stock himself up with luxuries, and then "let her down" with an economical bomb or two.

"Our character has got to be definite," the skipper told us. "From dawn until dark we'll steer a course that a ship like us would naturally steer. The port we are making for will be as plain to the man that sees us as if we had it painted on our bow. Maybe we'll zigzag. Maybe we shall be careless with our lights,"—we were, in fact, many a time, and with a purpose—"for the goal we've set is that we shall be sneaked up on as a near-sighted but honest old citizen and be plugged."

It turned out to be a slower job than we had expected. Perhaps for a week we would be outward bound for the Colonies. We'd pump bottoms enough to make her look light. Now and then we would heave to for "repairs," though that was a bit too obvious a trick and might well have created suspicion. Other weeks we might be found on any one of the homeward routes with a cargo of good, clean sea water in our tanks to make us look full up of all the things Fritz likes to smear the ocean's floor with.

It would never do to be found out. In fact, we went so long without a sight of the enemy that we began to imagine that we were. By day we would plug along the same old ruts as all the other unfortunates did whose calls for help fairly dinned in our ears. By night we slowed to a few knots or would sidestep north or south into another lane and be some other disreputable character plying her trade "bravely in the face of calamity," as the London papers put it. True irony it was when our daily prayer went up just to have the sight of a greedy torpedo making for our oak-braced sides.

We knew that the subs traveled nearly north and south across trade lanes in their outward and inward passages. This made it possible that we might be sighted by the same sub on two consecutive days. As it was highly improbable that two ships of identical appearance would be

found at sea so close together, we had to change our outward guise every time we made a shift of route.

Little jobs like painting the sides at night while rolling in a seaway were comparatively rather simple. But rigging and unrigging fake smokepipes, masts, stays, deckhouses, and anything else that would give us a new rake or silhouette, was one continual round of suicidal acrobatics. It all had to be done in the dark. Sometimes there was considerable weight to be handled and our ingenuity was taxed to secure realism without running the risk of making a botch of things by having the false gear tumble down at a critical moment.

To stimulate competition, the skipper offered prizes for ideas that could be used in this form of marine camouflage. He had to withdraw his offer, however, when the ship's company broke up into various cliques, each contending for some special infamy in the way of deforming the poor old craft. One markedly persistent crowd were for spreading a canvas structure over the whole upper works in hopes of simulating a "houseboat gone adrift."

The Kill

The weeks dragged along and we had the kind of luck that even the wicked oughtn't to have. Time after time ships would be torpedoed almost in sight of us. We would pretend to make a dash for safety, though in reality reducing to about four knots, and zigzagging at that. But somehow or other Fritz never saw fit to follow.

We began to think that perhaps we were too insignificant looking. But when once or twice we saw the kind of sea louse he was willing to guzzle, our self-respect came back. Time and again we sighted a periscope and all hands went to stations expecting to have a real live torpedo reported any minute. But these joyful anticipations passed unrealized. We came and went; returned to harbor and coaled; came and went again, but without avail.

When the torpedo finally did show up it was entirely unexpected. We had not seen a periscope for some days and there had been no sinkings in the vicinity for at least a week.

"*Torpedo approaching starboard!*" the lookout bawled. There was just time to notify the engineroom. Don't think for a minute they got word to leave their posts. Part of their duty was to stick until the last moment, then jump for it. Ticklish business, I tell you.

There came a slight jar, followed by a deep, throaty boom. Smoke and steam poured out of the engineroom hatch and we knew by the cry that came with it that one poor fellow had been caught.

Before the old ship scarcely had time to lurch and settle the panic party "preparatory" signal had been given. Some ran below, others ran on deck. Two were detailed to run aloft and look wildly for the sub. As a matter of fact, the periscope was at that instant reported by the lookout in concealment aft.

With this information the "execute" panic signal could be given. It meant abandon ship on the side indicated, that is, the side towards the periscope. As the "lady" was on deck by this time, the starboard falls were manned in her hysterical presence. Suitcases and bags were hurled into the boat. Every move and shout testified to the riot of fear that had seized the unfortunates.

In the meantime the wounded were taken care of below and slight headway was kept on the ship with the sadly damaged engine. Fire from the explosion was quickly doused and artificial flares and smoke-boxes placed just below the combings of the main hatches.

Altogether, from the smoke and flame, from the careening, staggering course, from the madness of those going overboard in the boats, one would judge that it was but a matter of seconds before the vessel would go up in one last grand staggering detonation.

The boats pulled away in unseemly haste. Men left below kept the sea valves open long enough to indicate that the ship was sinking fast. Flares and sources of smoke went out gradually as if drowned by the rising water. If anything was to be saved from the ship it must be got out quickly.

Fritz came to this conclusion after two trips around the burning hulk. He closed in to about two hundred yards and gradually emerged. Even then he did not open his conning tower, but steered close aboard our boats which, according to instructions, were endeavoring to entice him nearer the ship. Something must have aroused his suspicions. However, after one good look at our filthy lot of angry and gesticulating deckhands, he was quickly convinced that we could be no other than some low-caste tramp and acted accordingly.

He stopped on the quarter. As this made it impossible for the forward guns to bear, the helm was jammed hard over in a last desperate effort to give him full measure of our armament. Before she could answer he had his conning tower open and an officer stepped out, followed by two men. They must have been his gun's crew or the boarding party. There wasn't time to find out before our part of the fight had begun and ended.

The walls concealing our guns came down with a bang. Simultaneously the white ensign flashed clear of the rail. Before it could snap in the breeze the after gun had fired and hit. Fritz jammed his conning tower lid down, leaving his men on deck. No doubt he would have dived had he been given time, but after the third shot there wasn't any conning tower left worth diving for. Two more, and there wasn't any sub.

Rooting Valor in American Soil

By SENATOR WARREN G. HARDING OF OHIO



THE UNITED STATES has absolutely failed in the stupendous opportunity, presented by the war, of directing hundreds of thousands of its fittest young men, discharged from the Navy and Army, to homes on the land—farms which they would come to own.

Because of the war 4,000,000 Americans were called into uniform, were broken away from those ties which bound them to the avocations into which circumstances had thrust them. For every one of those Americans this period of service in the Navy or Army has been a time of taking stock. Each came to see the work he had formerly done from the point of vantage of distance, in the light of a broadening experience. Each learned much of other opportunities through his months of intimate association with the medley of men who surrounded him. Each had much time in those monotonous weeks that preceded his discharge to contemplate his future, to decide if he would go back to his old job or strike afield in some new and different line of endeavor.

If any considerable group of men is studied, taking them Tom, Dick and Harry as they come, it will be found that the most frequently recurring ambition is that for the acquisition of land, for the ownership of a home. It is a primal instinct.

So, when demobilization came, the nation had the greatest opportunity which ever has or ever will be presented to it of doing that thing which would go furthest toward giving it that greatest of assets, a



The community center holds the postoffice, the central store and the schoolhouse which can serve as a meeting place for the farmers and their families

large rural home-owning population. Four million of its fittest young men were, with open minds and a surprising predilection toward the land, groping for new opportunity. From coast to coast there were idle lands lying mellow in the sunshine, inviting the spade and the plow. There were individuals in America who saw the opportunity and exhorted the government to grasp it. Abroad, in England in particular, the same situation was intelligently interpreted and acted upon. America alone remained supine, did nothing, allowed her sailors and soldiers to return and drift where they would, to congregate in the great centers, to fall into non-productive avocations, to accentuate the undesirable tendencies of the national life. No sailor nor soldier has been offered a home on that vacant land which stretches from coast to coast.

Through the Department of the Interior an administration land policy with relation to the sailor and soldier was evolved. Its theory was that the government should reclaim land, swamp land, cut-over land, desert land, and sell it to service men on long term payments. Germany tried out such a land policy a generation ago and abandoned it. A plan of coöperative development of lands privately financed is far better. Almost any tract of fertile land, purchased at its actual value, properly developed and subdivided, will yield a profit to those who finance the scheme. If control of original prices paid for the land, and of the profits to be taken by the developers, is officially exercised, the undertaking becomes one which will yield an adequate return to the investor and will provide homes at reasonable prices.

The Republicans in Congress early saw the need of directing returning sailors and soldiers to homes on the land. It was in July, 1917, that Senator Curtis, of Kansas, a man who comes from the region in which folks are land wise, introduced a bill to create a board "to develop a practical standard of rural colonies and to establish the same for dependent families and to make a national colonization survey." This bill was given bipartisan support soon after our entrance into the war, and no doubt would have succeeded but for opposition offered by those insistent upon using this national opportunity to promote their theories on the socialization and nationalization of land.

In September, 1918, Senator John W. Weeks, whose term expired March 4 last, much to the loss of the upper house of Congress, introduced a resolution providing for the creation of a Joint Congressional Committee on Reconstruction, to be made up of three Republicans and three Democrats from the Senate and a similar representation from the House.

The province of the committee was to handle such problems as unemployment after the war, labor disputes, distribution of labor, federal loans to private enterprises, an after-the-war railroad policy, disposal of war properties, trade problems, banking, shipping, the allotment of lands to returning sailors and soldiers, and many other of the issues arising from the war.

This resolution, like the earlier bill of Senator Curtis, was never allowed to see the light of day. Senator Weeks, son of a New England farmer, wise with experience as to the needs of the people, big in his conception of the needs of changing times, fought resolutely for that class of action that would place the country in a position of readiness to handle the multitudes of unprecedented situations that were inevitable. Other Republicans in Congress were equally insistent. But the majority refused to heed the necessities of the case. Peace came, as it inevitably must, with the nation as unprepared for it as it had been for war.

Somewhat strangely, the torch that burns brightest in these dark cellars of American thought where land policies languish is that which has been held aloft by a woman. Mrs. Haviland H. Lund developed her theories of getting people on the land when, a decade ago, she edited, in Los Angeles, a publication known as *The Little Farms Magazine.* Upon her theories were built the Forward-to-the-Land League, a national organization. To her the proper solution of the land problem has been a Holy Grail which she has pursued ever since. She has preached her gospel from door to door, from office to office.

The immediate possibility of this policy is the direction of returning service men to the land, if it is not too late. The possibility that is perennial, that goes on and on, is that of getting any man at any time who would like a spade in his hand on to the land in such a way that he will come to own his home and will produce, through the years of his life, food for the multitude of mouths that must always be fed.

The principle that underlies this whole land scheme is that of coöperation. England has become so impressed with this idea that it has established schools in coöperation to so train the people that they will be equal to it. One man or one family can, with difficulty, go into the country, acquire land, create livable conditions for his home, establish himself, make his undertaking a success. But a hundred men can acquire a tract and upon it develop a Utopia. Coöperation of many agencies is necessary to this.

In the first place this plan contemplates the development of colonies, not of individual isolated homes. To plant colonies it is necessary to acquire tracts of land of considerable area. These are obtainable in all sections of the country, within fifty miles of New York, Cleveland, St. Louis, New Orleans or Washington. There are 30,000,000 acres of

unused land in New England, 35,000,000 acres in the Middle States, 180,000,000 in the Pacific States, 425,000,000 in all.

To carry out this scheme the first essential is that the price be set in entire disregard of the fictitious values that are so often given land by speculators. The whole community is interested in having the land cultivated. It is to the community's interest that inflated speculative prices of land be avoided so that the chance of its profitable cultvation be increased. Some scientific appraisal system should be devised to arrive at actual values in acquiring tracts for colonization. The interest of the landowner could at the same time be fully protected.

There is no idealism in this. There is little room, indeed, for any argument. Land dealers themselves will quite generally admit that the system which has prevailed in the marketing of land in the United States is absurdly costly and inefficient. An overhead cost of 25 to 50 per cent is common and the chief cost is in getting at prospective purchasers even when land hunger is endemic with us as a people. This is where government should step in. By eliminating an unnecessary cost it could get our sailors and soldiers on the land in a situation where they could stand on their own resources. It is certainly unnecessary, and I think altogether wrong, to attempt to socialize their land holdings and, indeed, to enmesh their existence with governmental control and socialism.

With the land acquired, the next step is to convert it into a model community in which families can live happily and profitably. The first step in this direction is the creation of a community center. In the middle of the tract is placed the gathering place for the hundred families that are to live thereabouts. There is the postoffice, the community store. There is the schoolhouse, so built and equipped that it might also serve the purpose of a community hall for all manner of meetings, might become a moving picture house by night. There may the people from the nearby farms come together for their pleasure just as though they lived in a village. So is a long step made toward banishing the isolation of country life.



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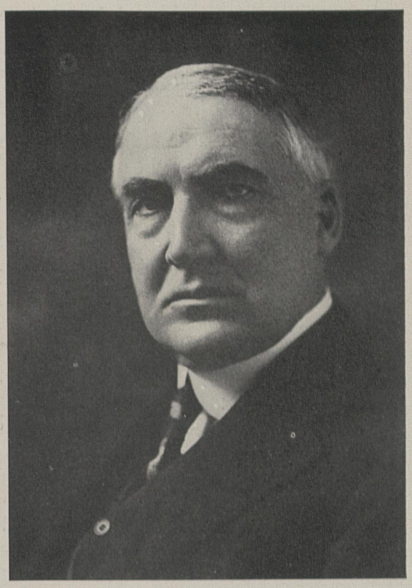
Senator John W. Weeks, retiring senator from Massachusetts

The tract is divided up into small farms. These settlements are small farm communities. That is the best sort of farming community because small farms are intensively cultivated and the land yield is correspondingly greater. And small farm communities breed neighborliness. Perhaps there are a hundred farms grouped about this community center, none more than two miles away.

Each farm is developed before its owner moves in. It is cleared, fenced, a house is built, a well dug, a horse, a cow, a pig, a flock of chickens, provided. The house is built in the light of all that is known of rural architecture. There is not one woman in fifty thousand who has lived in a house as conveniently arranged as that she will find on this farm. Coöperation has made a study of farm house construction possible. The chickens are of the best breed. The cow will give enough milk for the family and a bit of butter may be sold on the side. She is a real cow.

So the settler finds his plant ready to be operated. It is a scientifically constructed plant. No man who wants to go on the farm can now buy such a plant. The man who, on his own initiative, goes on a farm, must sink or swim on his own resources and knowledge. Not so with these prearranged communities. At the community center is a demonstration farm with a scientific farmer in charge. He knows just what crops can be there grown most profitably and how to grow them. Every farmer who gets a tract undertakes to farm under this scientific direction. He need not know the game to make a fair success.

Practical experiments have been tried in privately financing such undertakings as that of planting one of these colonies. The plan laid before any Chamber of Commerce will get its backing. If the Chamber of Commerce of Smithville, for instance, were approached, its attention might be called to a 4,000 acre tract of land just outside the town. The land is lying idle. Nobody is living on it. The idea is to put a hundred families on it. Each family will be productive. Each will require food, clothing, transportation. All that each produces or consumes will clear through Smithville. Every business man in the town will profit perennially because of the planting of his colony. The Chamber of Commerce can



Edmonston

Senator Warren G. Harding of Ohio

see that. It will back a project to acquire this land, develop this settlement, will be satisfied with a limited profit. It will coöperate.

An improvement put on farm land cannot fail to increase its value. An individual settled in a farm community goes just that far toward changing it from a sparsely settled community to a densely settled community and land values are usually in proportion to the density of population. So establishing a colony automatically increases the value of the land. No loss is possible through such action. The very presence of these people lends a value to all the property thereabout. So does the transformation of vacant land into thickly settled communities always pay. When understood it can get financial backing anywhere.

There are people everywhere who are willing to go on the land. One of the most difficult of undertakings, however, is that of buying a farm without getting stung in the process, and of going on that farm and making it pay. It is only the exceptional individual who can do it.

Success in a farm colony is incomparably easier. If properly handled the best sort of people can be secured to make up these colonies. The Forward-to-the-Land League maintained a registration bureau in New York for those who wanted to go on the land. The registrants were almost without number. Seventy-five per cent of them had had some farm experience, either in the United States or abroad. The great majority had savings running from $200 to $2,000. Five or six hundred dollars was an average—enough for a good start with proper guidance.

But under this coöperative plan it is not necessary that the right sort of man should have any capital at all. When

he comes on one of these farms, his very presence adds to its value. Everything he does increases its value. He can work for wages on the demonstration farm till he has saved enough for his first payment. His payments should be so arranged that he may clear the property in twenty or thirty years. And he pays only what his place has cost plus a limited profit to those who advanced the money.

The development of such tracts, under official guidance and supervision, would inspire universal confidence in the undertaking. Private capital could be attracted to it. The demonstrated success of the plan, its proper setting forth, would undoubtedly lead to its becoming a sort of practical crusade in which all parts of the country would join.

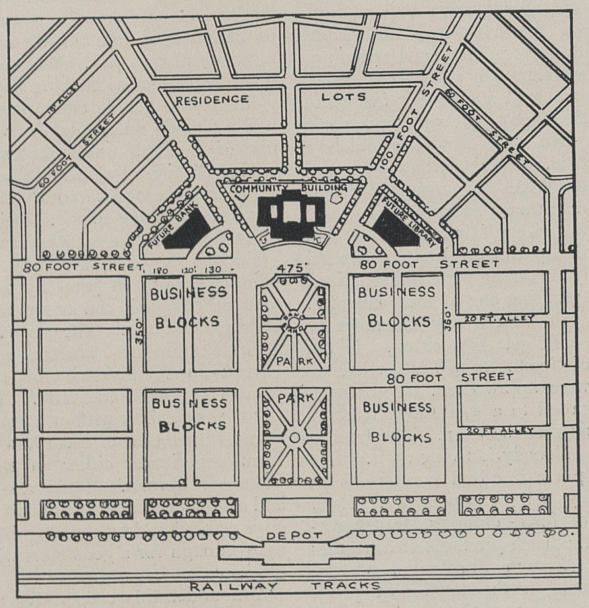
It is possible here to give only a brief account of the benefits that would grow out of coöperation of this sort. As I have said, the activities of the community are directed by the supervising farmer at the community center. This director also organizes the marketing of the products of this farm. An individual farmer might have a dozen eggs and three boxes of strawberries. The city that was his logical market might be twenty miles away. It would be impracticable for him alone to get these articles to market.

But each of a hundred men has the same quantity of material. The community owns, coöperatively, a motor truck. That truck makes a trip over the principal roads of the community every morning and picks up the produce that each farmer has. The total is a truck load. It has a value of $200. Its marketing makes a trip to the city worth while. It will gain consideration when it arrives. It is fresh and first class. So the produce of every farm has a ready route to market every day.

The buying of the community is done coöperatively. Flour and sugar, for instance, are purchased in carload lots. There is a saving of 25 per cent to the consumer. There are tractors for plowing that are owned coöperatively, harvesters, threshing machines. Coöperation has inconceivable applications.

So is a community built on a stretch of vacant land; a community of small farms, of model homes. It is almost like a roomy village and without isolation. Care is taken for the social development of the settlers. The whole is a demonstration tract of scientific farming. Through coöperation the colonist has such an advantage over the average farmer, in buying and selling, that his profits are sure to be greater. He has a 50 per cent handicap over the average farmer. He will prosper. The struggle and the poverty of the small farmer will not be his lot.

It is such homes that the United States should have had ready for occupancy by its sailors and soldiers at the time of their return. At least it should have had the vision of these homes in its mind and the land out of which the soldiers themselves could have carved them, thus finding employment during the troublesome period of readjustment. If the plan had been ready, if it had been possible to visualize to each soldier the home that awaited him, that was his if he chose to go on the land and become its owner, there is no question but great numbers of these men would have responded. If one man in ten had responded, 400,000 farm homes would have been established. If one man in four had heard the call to productivity, a million families would have been so established as to be of greatest value to the future nation. Assuredly every tenant farmer and every farm hired man in the Navy or Army would have jumped at this chance. But no farms were ready. A plan was not even officially thought out. Congress had done nothing. The opportunity is already largely lost.



The Forward-to-the-Land League suggests that the central hundred acres of each community be developed thus

Now the duty of the government is to pull this situation together as best it can and save what it can out of the wreck of neglected opportunity. An ideal situation existed with relation to returning sailors and soldiers. But a splendid chance still remains that is applicable to the whole nation this year and next and five and twenty years hence. The land hungry are always with us and an intelligent handling of them will lead them in a constant stream always to actual ownership of farm homes.

The menace of the present and the future is Bolshevism and other similar manifestations of unrest and desires for destruction on the part of those who have nothing to lose. If chaos is created. such a man argues, he may come out of it with some of the spoils. Fundamentally it is land he wants.

No man anywhere who owns land is a member of any of these destructive parties. The ownership of property is the greatest of stabilizers, a guarantee against extremism. Take any Bolshevist and settle him into a satisfactory farm home and he becomes politically sane. The home-owning peasants of Russia are its bulwark against the non-property-owning agitators of the cities. They will be the saviors of Russia. The French peasantry, the most ideal citizenry that any nation has possessed since time began, is a farm-owning peasantry. This French condition of ownership of land by the people who work it is one that this country should seek to bring about in the United States. But in America, with its vast expanses, each farmer should work twenty acres where the Frenchman works two. So is his opportunity greater than the landowner in France.

The group of men who have been converted to this practical idealism, who promise to push it in the future, are of a group generally classed as conservatives. They are hard headed men who have weighed the practicability of the plan. They are largely men who originated on the land and know the problems first hand. They have given force to a movement which will probably loom large in the future.



The 110-foot submarine chasers were, numerically, the larger part of the fleet which guarded the Atlantic coast from Cape Lookout, North Carolina, to Boston during the five months that Hun submarines were active in American waters. It is chiefly to their credit that not a single convoy from this side was delayed in sailing nor a single soldier lost by submarine attack "over here"

Exploits of the "Little Navy"

"Small fry," manned by young Americans with little or no sea experience, patrolled our coast, escorted convoys and hunted submarines in fair weather and foul

By HENRY C. AMES



AFTER A FIVE-DAY tour on patrol the U. S. Sub Chaser No. —— let go her hook alongside one of Uncle Sam's battle-wagons in the harbor of B—— with all the assurance, if less of time-honored ceremony, of a first-class fighting ship. As the anchor splashed overboard a spick-and-span man-of-war's man stuck his head out of a gun port in the frowning topsides of the big ship, looked disdainfully over the tiny fighter and her crew, bundled up in winter outfits, knit helmets and wind-proofs and delivered himself of these words to the motley crowd securing the cable of the chaser, there being no officer in sight:

"Hi, you rockin' chair yachtin' sailors, why don't you get off that 'slacker's paradise' and on to a *real* ship when you go to sea?"

Now, this chaser's decks were coated with from five to six inches of solid ice so that sand had to be sprinkled liberally for one to keep his footing even in smooth water; life lines and stanchions were as big as a man's arm with ice; the small hot-water heating plant had been out of commission for four days and the temperature of the living quarters had not been above four degrees Fahrenheit during the cruise; the moisture had congealed on the skin of the ship below, freezing blankets and bedding to the sides of the ship, while cold canned stuff and coffee were all the tired crew had put in their stomachs the past two days, being all the cook could serve during the bad weather when a pot had to be held on the galley stove to keep it in place.

Therefore it is no wonder that nerves were frayed and the requirements of military formality forgotten as the chart house window on the chaser was shoved down with a bang and the hooded head of the commanding officer, whose parka hid his rank of ensign, protruded, and snapped out an answer to the taunt.

"Say, you son-of-a-sea-cook, if you'll come down out of that steam heated palace of yours for just five minutes, any of my men for'd there 'll show you whether this is a 'slacker's paradise' or not."

And that quick retort summed up in one sentence more concisely than anything else the vast difference in the character of the service between the big and the little ships of the Navy during the last year and a half. On the big ship, warmth, comfort when off watch, three hot meals a day adequately prepared, and plenty of men to do the work, arduous as it was, while on the little ship discomfort below as well as on deck in bad weather, twelve hours on duty out of every twenty-four, and such meals as a man unused to cooking at sea—or to cooking at all, more likely—could rustle with the little ship bucking like an unbroken bronco and decks under water as much as above when the seas were high; conditions that brought out the real stuff in a man and, incidentally, hardened his stomach as nothing else could. It was no life for malingerers.

Yet it was under just these conditions that the men of the "Little Navy" served



E. Levick

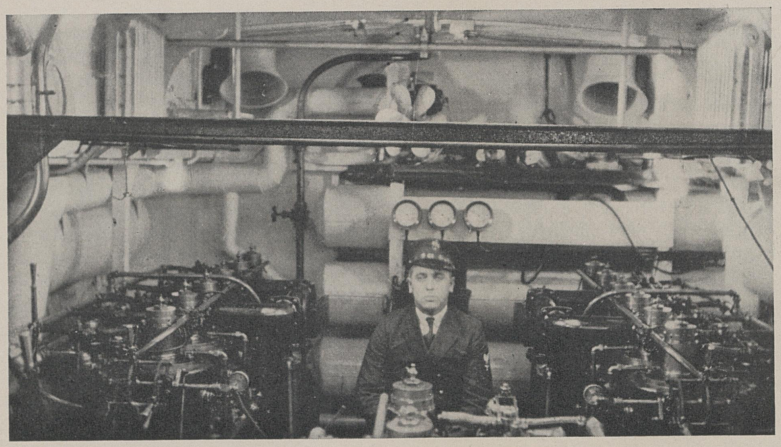
When one looks at a 110-footer in port, the inclination is to associate service on board her with the pleasures of motor boating in July. But life aboard such a craft doing 75 per cent of sea service during winter months is anything but amateur sport

during the war; men (and officers, too) for the most part without much or any previous sea experience. There was no chance to go stale from inaction or *ennui,* for service on these vessels, the destroyers and our submarines meant action with a capital A. In spite of which there is recalled the case of one officer of a chaser who, after five months' operation in the submarine zone, working 75 per cent of the time, running dark with convoys and the like, put in for transfer to another class of ship, giving as his reason *desire for more active service.* He must have been something of a humorist.

Something has been written about the work of these men and boats on the other side of the Atlantic where the crews of Uncle Sam's "Little Navy" have seen service from Scapa Flow to the Grecian Archipelago, but too little has been told of the men on this side who have had just as arduous and trying duty and who have done equally their part in getting the convoys safely across, in keeping coastwise traffic going and in making it so unhealthy for the despised U-boats that not once did they show themselves willingly to a fighting vessel of the Navy off this coast. In spite of the German boast that their *unterseeboots* would prevent the shipment of troops across the Atlantic, not a single convoy, merchant or troop, was held up or sailing delayed from this side on account of the U-boat menace for the five months subsequent to May 25 that "Fritz" was active off this coast, and during this period not a single escorted convoy lost a ship through enemy attack and it is doubtful if any such convoy were actually attacked. "Heinie" was taking no unnecessary chances and mostly confined his attentions to lone vessels he might encounter.

When, on May 25th, the long anticipated yet long delayed U-boats first showed their snake-like heads and sunk an unarmed, lumbering schooner, and then the passenger liner *Carolina,* there was hardly an officer or man in the patrol fleets or destroyers operating off this coast who had had any experience whatever in submarine warfare or tactics. The men who had been getting this experience since April, 1917, were still, for the most part, on the other side with most of our destroyers. Yet everything that could in any way act offensively against the enemy was immediately shot to sea looking for "Fritz," the new 110-foot submarine chasers forming, numerically, the larger part of this fleet, which was within a few days operating from Cape Lookout, on the North Carolina Coast, to Boston. It was the beginning of a strenuous six months' service for the men on these little boats, many of whom had been specially trained for this type of craft and yet had had no actual experience at sea on them, while many had had no previous sea experience whatever. In one case a sub chaser was fitted out in —— and sent immediately to sea to operate against subs. On her, out of a crew of 24 men, only the commanding officer and a bos'n's mate had ever been on a vessel before except as passenger, and these two had never had seagoing experience. This boat made a particularly fine record before the six months were over, as did many others which were at first operated under these conditions.

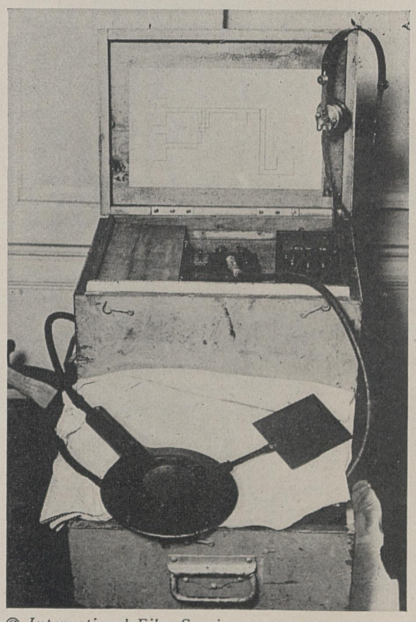
The work of the boats was divided roughly into three classes, *viz:* escorting troop and merchant ship convoys through the danger zone on this side, from 100 to 300 miles to sea; hunting for "Fritz" in special scouting or hunt groups, usually operating with a destroyer; and patrolling certain sections of the coast to keep them clear of the enemy. It was the hardest kind of work, for the boats were small, had but two officers aboard so that it meant watch and watch for them all the time they were at sea. They had to be constantly alert and under a great strain, not only on account of the



The service imposed upon the heavy duty internal combustion engines of the sub chasers was extremely severe. Constant sea service under bad weather conditions always places a tremendous strain upon the machinery of a wooden ship, for her timbers "work" and affect the adjustments of propeller shafts and other parts. A sharp controversy developed in the Navy Department over the question of type of engines for these craft but the final decision was proved by experience to be sound

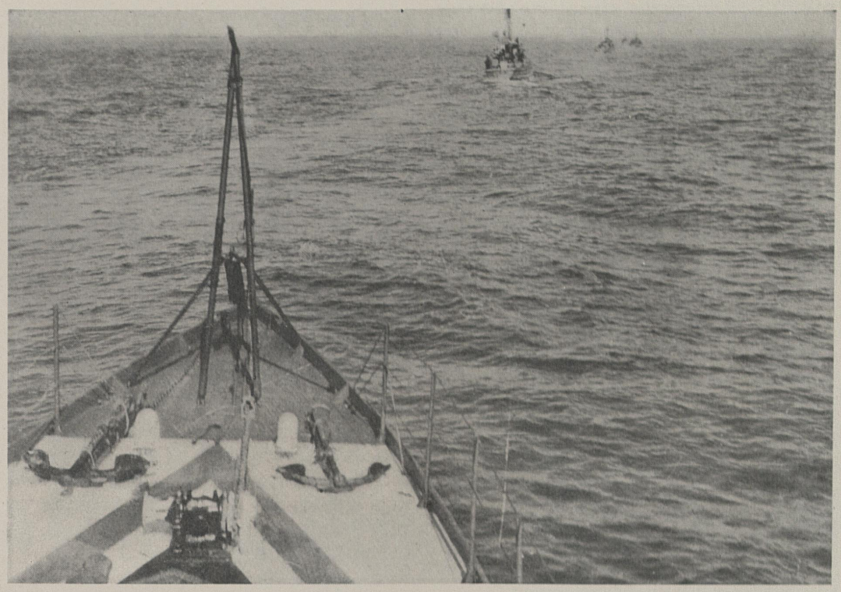
presence of the enemy but because the service required that they run "dark," without lights of any kind at night, on an ocean where everything else afloat was not showing lights. The dangers were not alone from subs, by any means. And to add to the joys of their existence they looked, at a distance or on a dark night, so much like a sub themselves, their wheelhouse amidships being easily mistaken for a conning tower and their single mast for a periscope, that there was ever present the danger of having a shell come hurtling over the deck from one of our own vessels.

It was in just such a manner that the *S. C. 209* met her fate by the guns of an American steamer, as has been partly told in the newspapers. This boat, in company with five other chasers and a destroyer, was working up the coast in August, stopping at stated intervals and listening for the elusive "Fritz" who warily kept out of sight, the beat of his engines under water being the most likely means of detecting him. The orders were to show no lights after dark and the group of three, of which *No. 209* was the center, was getting in some fine "gum shoe" work with their listening tubes south of Fire Island Lightvessel, near where the cruiser *San Diego* had been sunk a few days before, when the bulk of the big freighter *Felix Taussig* loomed up ahead, homeward bound from the other side, with her gun crews at quarters and on the alert. It was moonlight, however, and as the freighter could be made out readily from the chasers, the men on watch on the latter vessels supposed they could also be seen, even if they did not loom up like battleships.



© *International Film Service*

A listening device used abroad to gain knowledge of the submarine's whereabouts while he was running submerged



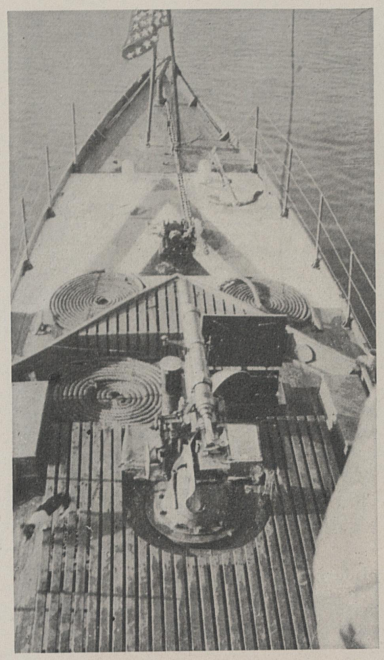
A column of chasers leaving port for patrol duty. The chasers usually worked in groups in convoy, patrol, scouting or hunt duty. On patrol and hunt duty their great value was that the large number of them joined together by wireless communication afforded a network of observation posts against the enemy

In submarine warfare, in spite of all precautionary measures, it is usually "shoot first and investigate afterwards," and as the *Taussig* swept through the formation of chasers her crew took them for subs and opened fire at point blank range (not over 400 yards at the most) and so near that the men serving her guns could be made out from the chasers' decks. The first three shots passed over the *209,* so close that her crew heard the whiz of them, while the fourth hit her fairly amidships, the 5-inch shell blowing her all to pieces, so that only a section of the bow and of the stern remained afloat and these only for about a minute. It is probable that the shell exploded one of the big depth bombs on the chaser's deck, for anything less would hardly account for the damage done.

After the first shot one of the other chasers started signalling the *Taussig* by blinker lights but the shots came so quickly that no attention was paid to her until it was all over. This second chaser, only some 150 yards away, immediately steamed between the two portions of the wreck afloat, and though the wreckage and sea were blazing from the gasoline and oil which had escaped, lowered a boat and picked up all that was left of *209's* crew—those who had been stationed forward and aft when the shell hit. Eight were picked up in this way, some of them so severely wounded that they afterwards died, and one was rescued by a machinist's mate who dived overboard and swam through the burning wreckage to a man who had thrown up his hands and was sinking before the boat could reach him. In all, 17 or 18 men, including all the officers, were lost in this accident, which was only an inseparable part of the dangers of anti-submarine warfare in the conditions under which it had to be carried on.

There were numerous other instances where sub chasers have been fired on in mistake for enemy subs while several collisions with steamers, due to the necessity of running without lights, resulted in the loss of other chasers, for while a steamer looms large even on a dark night if the weather is clear, the smaller chaser cannot be seen against the dark sea background until she is close aboard. In one case, the crew of a chaser, rammed and lost in this way, saw the crew of the steamer, a Norwegian, refuse to lower a boat or throw lines to the men swimming around in the water until assured that they were not Germans—such being the feeling that "Fritz" has stirred up in the hearts of the Norse sailormen. In this case the men were, luckily, all saved, but in other cases they were not so fortunate.

Escorting convoys was, perhaps, the most exacting and trying work the little boats had to do and on this duty the chasers were often taken several hundred miles off shore, till the convoy was well clear of the danger zone. Some of the merchant convoys often had from 30 to 40 ships in them, spread over several square miles of sea. With cruisers and destroyers ahead the little chasers would zigzag on either flank and across the rear. As night fell and darkness settled over the huge flotilla there would be absolutely no lights of any kind shown and the escort would close in until they could see the loom of the outside ships and,



A chaser's gun. The armament of the chasers was so light that they would have had a poor chance in combat with a submarine running on the surface and able to use his guns

with eyes glued to them, keep station—in momentary dread of being run down and trampled under foot by some big merchantman swinging out of formation.

Early in the game an incident occurred that brought out the stuff that was in these boys who were going to sea for the first time and thrown entirely on their own resources, that is worth recording.

While returning to base from convoy, running in formation, the leading chaser had some engine trouble and was forced to leave her place in column, after signalling to another chaser to stand by, while the rest continued on their way. This was some 200 miles offshore and a heavy sea was running before an increasing easterly wind. In groping around in the dark the two boats came together, one being rammed amidships by the other, the former being cut down to the water's edge and the force of the impact tearing the engines of the other loose from their bed-pieces, rendering her helpless.

Sending out calls for assistance a third chaser came back and after great difficulty succeeded in passing a line to the disabled boat, and taking her in tow, started back for the nearest port, nearly 200 miles away. Seas were breaking aboard both vessels, half the crew of each were seasick and the other half nearly starved because the cook could not keep anything on the galley stove, while six knots was the best speed that could be maintained.

After proceeding for an hour the heavy 5-inch towing hawser parted, as it tautened like a bow-string when the boats dropped into opposite troughs, and in the black darkness the work of making fast was begun all over again. By daylight it was completed and the journey began once more. Again the strain was too great, once more the line parted and again a new one was made fast at the risk of crashing into each other as the towing boat steamed across the bow of the helpless one close enough to get a heaving line aboard.

Four times this happened in the next two days until a "shot" of chain cable was bent in between the towing hawsers to give them enough sag or spring to prevent being brought up with a jerk in the seaway. Thus, after 48 trying hours, in constant expectation of a "Fritz" bobbing up for an easy victim, the disabled boat was brought back to her base. On the last day help was offered by a passing steamer but do you think those boys accepted it? Not a bit of it! The laconic answer of, "No, thank you; the sea is moderating and I think we'll make it, all right," showed the stuff that was in those youngsters, who but a few months before were holding down shore jobs in some office, going to college or working at some trade. It was all part of the day's work and, as that, nothing was thought about it.

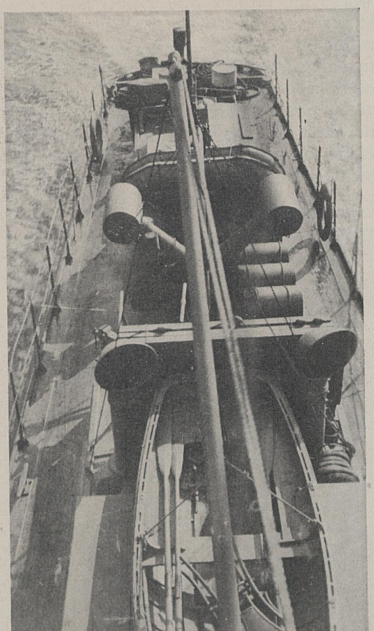
Slow convoys were not so bad, but troop convoys where a speed of 13 to 14 knots had to be maintained were man-killing in bad weather. In head seas that an 8,000 or 10,000-ton ship would hardly feel, a little chaser would be more like a submarine than a surface craft. Broaching almost clear of the water as she shot off the top of a sea and not rising to the next one she would be smothered in green water. Deck openings on small craft are seldom watertight and everything would get soaked below—bedding, clothes, uniforms, food and all—while frequently water would rise above the deck of crews' and officers' quarters and above the floor of the engine room. It was a man's-sized job, and it is to their credit that they stuck it out as they did, there being but few cases where the little fellows turned back before being officially ordered to return by the S. O. P.—who was usually on a big cruiser where the conditions could not be readily appreciated.

Another case of collision between a chaser and another vessel had its humorous side, which appealed to the officers afterwards as showing the spirit of the boys aboard. S. C. —— was in collision with an unknown steamer one night, being hit on the port side amidships in the officers' quarters, and a hole big enough to drive a motor car through cut in her. The only thing that saved the C. O., whose berth was cut in half by the stem of the steamer, was the fact that he had the deck at the time.

The compartment immediately filled, the chaser listed well over as the water rushed in and word was immediately passed for all hands to stand by to abandon ship while the extent of the damage was being ascertained. The men tumbled up in the clothes they had been sleeping in, some of them crawling over debris to do it, and seeing there were still a few minutes of safety left, and not wanting to lose their clothes (having in mind the difficulty of getting new outfits in these circumstances) they ducked back for their clothing, and naturally grabbed the best they had to save, putting them on hastily. When they reappeared on deck the C. O. was storming up and down impatiently, and when he saw them come up again said: "What the devil's the matter with you fellows? I give the word to stand by to abandon ship and all hands come up dressed in liberty blues."

Several attacks were made by sub

(*Continued on page* 276)



The one hope of the chaser was to keep the submarine down and to accomplish his destruction under water by dropping a depth bomb. In each of the cylindrical depth bombs shown with the "Y" gun on the deck of the chaser in this picture there is sufficient T.N.T. to blow the chaser to Kingdom Come



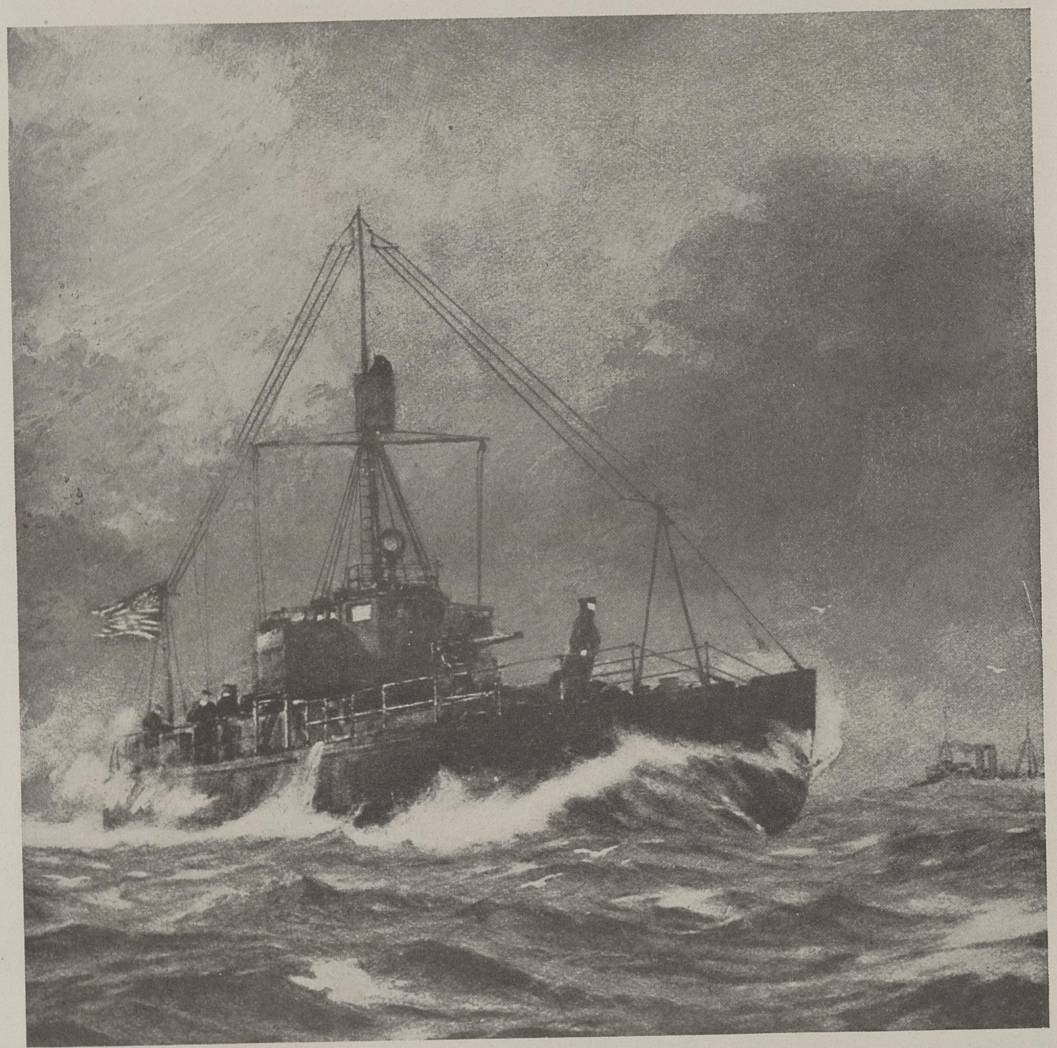
© *Underwood & Underwood*

Sometimes a U-boat would dive in a hurry—especially if she saw an Allied patrol boat close at hand. Little is seen here of the undersea pirate except her "jumper stay" and a net cutter—the toothed bar just disappearing at the left.



From a painting by Warren Sheppard

Fritz found the depth charge most annoying, though there were seldom any survivors when the 300 pound charge of T.N.T. exploded as close to him as this.



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Our British cousins built several hundred 80-foot patrol boats which were known as M.L.'s (motor launches). They were consequently much interested in our 110-foot submarine chasers, which were much more seaworthy and more comfortable craft, though comfort at sea in such a small vessel is well nigh non-existent. Small as they were, our chasers stayed at sea when many larger vessels sought shelter and came into port only when their tour of duty was ended. No matter how hard it blew, they stuck it out, always ready to drop a depth charge and always hoping to bag a submarine next trip.



From a painting by William Harnden Foster

One disadvantage under which a submarine chaser labored was the fact that, at a little distance, her outline was remarkably like that of a submarine on the surface. In fact, S. C. 209 was sunk by gunfire from the steamer Felix Taussig under a brilliant moon, the steamship's gunners mistaking the chaser for a Hun U-boat. Nevertheless, the youngsters on these tiny men-of-war kept up their patrol, hunted for hostile submarines, and did their regular tour of convoy duty with unshaken nerve.



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This British official photograph shows the column of water thrown up when a depth charge explodes. Each "ash can," as the sailors call them, contains 300 pounds of T.N.T. and will cripple a U-boat within 50 yards. Incidentally it would blow a chaser to kingdom come.

Industry's Plea for Peace, and Why

By HERBERT SMITH PLUNKETT



BACK IN THE feverish days of war we conjectured, whenever we paused for thought of the future at all, that war's despoliation of the factories and lands of Europe would provide us a market during the period of reconstruction which would keenly stimulate American industries, sustain prices, and solve the problem of industrial readjustment for the United States. We have found matters quite different. Unemployment is a serious problem. Stocks of raw materials are being held at constantly falling prices. We are not getting so quickly into the stride of reconstruction, into the heavy, absorbing task of rebuilding Europe.

The truth is we left out of our calculations the period that is intervening between war and peace, the period of the armistice, when the markets artificially sustained by the demands of war are wiped out and yet industry remains shackled with the blockade restrictions of war. What we are trying vainly to accomplish is to start the wheels of peace industries whirring while so many of the trade restrictions of war are still imposed. As a natural consequence of the failure to achieve this impossible feat the impression is gaining headway with some persons that the stimulant of Europe's reconstruction demands was all a myth. But those who incline to this opinion disregard the facts. For the truth is that during the twelve months before the war Germany alone imported from the United States more than $407,000,000 worth of materials, a value exceeding by more than $100,000,000 Germany's importations from any other country. And if the United States obtained such share of Germany's trade then, is it not inevitable that under present conditions, with America alone prepared to start her peace industries at full blast, the United States will obtain an even greater share of Germany's purchases when reconstruction is begun? For Germany to finance such purchases with her export strength weakened and the exchange value of the mark consequently decreased is obviously a difficult problem, though by no means impossible of solution.

But the one answer to the question of why peace has not brought us industrial prosperity is that we have not peace yet. Industrial reconstruction yet awaits the conclusion of peace. While Paris fiddles we will have unemployment, sloth in industry, inordinately large stocks of materials held in this country at prices far below the war labor prices at which they were produced. It is not suggested that Paris is not fiddling to very good purpose. If the League of Nations produces world peace, the benefit to industry in the future will unquestionably be worth the price now being paid for it. It is not within the province of this article to raise the question of whether the League of Nations can or cannot be obtained in the event that a quick peace is made first and establishment of the League taken up thereafter. In the Senate the recommendation has been repeatedly made that we have immediate peace with Germany and establish the League afterwards. The reason urged is that there should be careful and deliberate consideration by all the people of a pact which would perhaps forever bind the United States to the will of an international body. Outside the Senate, while the press and public have echoed this plea for deliberation, the demand for quick peace has been growing ever more insistent.

II

It is my purpose here to seek the cause for this anxiety for an early peace. And the first fact we encountered in such a search is that one billion pounds of copper are being held in the United States to-day, practically all of which was produced on a wage basis requiring its sale on the market at 30 cents per pound. The market quotation on this copper to-day is 18 cents a pound. If sold now it would entail a loss of more than $120,000,000 to the producers. Your Bolshevists may scream that the copper producers should suffer this loss but labor knows, quite as well as capital, that while this situation continues the opportunities for employment at the old wages must diminish. By regulation, collective bargaining, strikes, labor may increase its proportionate share but it cannot secure its maximum profit by any amount of negotiation or coercion out of a market where immense stocks are tied up and prices are falling. It is not capital alone, nor labor, but industry which appeals for an early peace and the ending of the war restrictions upon trade. The farmer is heavily interested.

The northern farmer has been railing against the Administration because the price of wheat was fixed and cotton was left free for the southern cotton grower to make what profits he could. But what is the situation of the cotton grower to-day with peace delayed and trade restricted? A surplus of 3,000,000 bales of cotton was carried over from last year's crop. As to this year's crop, cotton exportations began in August and up to February 21st, shipments of cotton abroad were 147,000 bales less than during the corresponding period of the year previous; in other words, cotton exportations were below those of the year when 3,000,000 bales were left over on the hands of southern banks and merchants. Recently cotton exportations have increased and it is estimated that 6,000,000 bales may be exported this year. That would be an increase in shipments over the previous cotton year of a million and a half bales and would immensely relieve the situation. But it would take more than this to even up matters for the cotton grower. The price on cotton from September 3rd to February 21st, the period during which shipments were so poor and stocks were being carried at a loss, dropped about $40 a bale and it will take a boom market indeed for the rest of the year for the producer or the southern banker to recoup the loss of $320,000,000 which that decline represents.

It is, of course, difficult to say how much of this is to be laid to the delay in concluding peace. More than 4,000,000 cotton spindles in France were destroyed during the war. The loss at the hand of the Hun in France in the one item of cotton, wool and linen spindles and looms is estimated at $20,000,000. That is a loss to the cotton market which it will take time to repair. But Germany lost no spindles and she used to buy almost a third of the American cotton crop, 2,350,761 bales out of a total export of 8,724,572 bales. So were cotton exportations to Germany restored it is obvious that much of the overstock in the cotton market could be sold.

III

Of course, even with the freest trade relations permitted Germany by the terms of the peace treaty, a return to anything like her pre-war volume of raw material imports could not be expected at once. Owing to the inevitably low exchange value of the mark, she will have difficulty in financing such importations, which at first cannot be offset by equivalent exportations. Increased exports only will strengthen the German exchange. But with settled political conditions a rapid increase in Germany's raw material importations may be looked for, within the limits at least of any restrictions that may be imposed in the peace treaty.

Another serious embarrassment that Germany may face in building up foreign trade will be a lack of shipping. But this fact, indeed, may place the United States, with her great fleet of merchant ships, in a particularly favorable position as to German trade.

It may be noted that the extensive textile industry of Germany before the war employed nearly two and a half mil-

lion operatives. Besides cotton, Germany imported enormous quantities of wool, silk and yarns, and exported annually manufactured textiles valued at more than a billion marks.

Turning to the wheat situation, the estimated American crop of a billion bushels this year will leave approximately 350,000,000 bushels for export. Australian wheat is now selling in Europe around $1.30 a bushel. Sale of our entire surplus at this figure would mean a heavy loss to the government under the guaranteed price of $2.26 for No. 1 grade. Opening up of the German market for wheat would undoubtedly improve quotations and mean an important saving to the government. Germany's demand for American wheat would be considerably greater than her pre-war demand, with practically none to be had from Russia.

Indeed, the entire cessation of Russian exports adds very materially to our foreign trade opportunities not only in Germany but in Europe generally. Germany's import trade with Russia in 1913 amounted to more than $339,000,000, being second only to her import trade with this country. Her barley importations from Russia in 1913 were valued at more than $77,000,000 and wheat importations at $20,000,000. The total exports of Russia in 1913 were valued at very close to a billion dollars. This trade waits upon the enterprise of nations ready to supply world markets in the coming months.

With both German and Russian sources of supply practically cut off, American exporters, even on the present rationing basis, have been able to gain an important foothold in Scandinavian trade. These countries are importing right up to the hilt of their allowances from the Allied countries, though these allowances have been materially increased in the last few months. America is supplying a great percentage of their imports. As a consequence our export trade with Norway, though it is not generally supposed, is four times greater than before the war, reaching a total of $36,000,000 last year. It has also shown an increase with Sweden. Owing to the closer rationing of the Netherlands last year our trade with that country dropped to $11,000,000 from the 1913 total of $125,000,000. With the lifting of neutral trade restrictions there will be that difference at least in Holland trade to supply. And with Russia and Central Europe unable to supply their markets, our trade with the Scandinavian countries can undoubtedly still be much expanded when freed of all restrictions. It should assist materially in relieving the cotton situation. The Scandinavian countries and Holland are importing every bale of cotton permitted them under the present allowance, which totals for the four countries about 20,000 bales a year. They would greatly increase this consumption if permitted to.

Turning to the Balkans and the new states of Central Europe, their industrial reconstruction will afford an extensive market for American raw materials and industrial equipment of all kinds. It would be idle to attempt to estimate in values the export trade that the United States can develop in these countries, but the possibilities are obvious.

IV

Ships are the key to the vast opportunities in foreign trade that await America. The Shipping Board recently announced that one-fifth of the world's ocean-going tonnage now flies the American flag. Of all ships now clearing from American ports 46 per cent are of American registry, compared with 9.7 per cent before the war. While the Shipping Board is now operating 435 cargo vessels totaling 1,961,499 gross tons, after releasing many of the smaller war-chartered vessels, 353 ships, totaling 1,873,251 tons, yet remain to be released by the Army and Navy, to swell the trading tonnage under government operation alone to 3,834,750 gross tons. Besides this inspiring figure, many thousands of tons are building to provide a merchant marine that will carry the great surplus of American resources and productions to the four corners of the world.

When American Business Goes Globe-Trotting

By JAMES H. COLLINS



WHEN PEARY finally reached the top of the world he spoiled a pleasant old saying: that if the North Pole was finally discovered, a Scotchman would be found sitting on it.

Which was just a succinct way of emphasizing the Scotchman's knack at turning up in the most remote corners of the globe, busy, prosperous and thoroughly at home.

Scotland naturally breeds business globe trotters. It is a small country, with few natural advantages, and doors opening on to every other country in the world. The young Scot escapes through Scotch ships, as an employee or representative of Scotch business houses. Scotch capital is invested abroad and requires management. If the young Scotchman cannot visit foreign lands as manager of a branch business house or bank, then he may go as an engineer or purser on a Scotch ship. The British colonies are largely Scotch colonies. They say that if you shout "Mac!" on the streets of Durban, Toronto or Dunedin, every other man will turn around.

In fact, the Scotchman regards the globe about as people in our own Middle West regard territory beyond the Missouri River. A thousand mile trip is nothing more than a trolley ride beyond Kansas City, and the Middle Westerner leans out the window at every station and greets friends. That is the Scotchman's viewpoint toward the world; he walks down the gang plank at Hong Kong, Calcutta, Buenos Aires or Rio, and finds himself among his own clan. And to this large way of regarding geography, both the Scotchman and the Middle Westerner owe their large-handed way of doing things.

II

Now the Middle Westerner and the American generally are going to be turned loose over the globe. Through American merchant ships and branch banks and foreign distributing houses and investments, a thousand new doors will be opened up on the world.

Yesterday, if a young American felt the lure of far places—as thousands of them did—there were not more than three ways of foreign travel open to him. He could go as a tourist, paying his way—if he had the means. He could enlist in our Navy or Marine Corps, and let Uncle Sam take him abroad. Finally, he could work his way over the globe by hard knocks, picking up odd jobs afloat and ashore. If none of these methods of travel appealed to him, then probably he took it out in reading Kipling, Richard Harding Davis and Archibald Clavering Gunter, until youth passed and the call of far places found him deaf, middle aged, serious, comfortable.

To-morrow, it will be very different—if we live up to our new world opportunities. We shall have American liners running all over the globe, with places for seamen, engineers, stewards, officers.

Our banks and business houses will be training young Americans for foreign service. The big corporations will send its salesmen out to sell goods, and its engineers and experts to investigate business projects and supervise investment enterprises in other lands. The little Corn Belt factory, no less than the big corporation, will have its following of customers in world trade and its need for sending bright young men abroad.

To-morrow?

The thing is being forced upon us to-day. Immediately after the armistice, American business concerns in every line began receiving inquiries from foreign countries. Inquiries for information and prices, inquiries for rights to represent them abroad. And not only inquiries, but definite orders from Latin America, Europe, the Orient, the British Dominions.

"During the first two months of 1919," said a Middle Western manufacturer, "we have received more foreign inquiries and orders than in ten years past." His factory is comparatively small and situated so far inland that one wonders how they ever heard of him at all in France, England, Denmark, Spain, Brazil, Chile, China. More than that, his product is so typically American in its nature—he makes modern fangled Yankee conveniences. But probably that is just why they do want them and are shoveling a path to his door. As fast as shipping is restored he will send men abroad; several of his keenest young men are now studying French and Spanish.

III

Twenty years ago a young American laid, by foreign travel, the foundations of his business success. He spent two years going half around the world, visiting South Africa, Australia, Japan, China, and India, coming home by the way of the Mediterranean and Europe. Being without means to travel as a tourist, he did the next best thing open to an adventurous Yankee then, starting from New Orleans on a British tramp carrying mules to the Boer War, and making his way from place to place by various sea and shore jobs. Just a high school graduate in a small town, he might have settled down to a humdrum job in a bank or store but for that opportunity to ride with a trainload of mules to New Orleans and thence overseas to Durban. On his travels he gained a knowledge of people and a resourcefulness that made it easy for him to get into business for himself.

This year he is going again, not as a mule tender but as Santa Claus.

For he is now a toy manufacturer, and the introduction of American toys in markets formerly dominated by the Germans offers him a combination of business and adventure which is thoroughly typical of the new opportunities that Americans are going to find all over the world.

Since the invasion of Belgium we have built up a real toy industry in the United States. American toys are as characteristic as American typewriters or adding machines. Foreign toys were notable chiefly for cheapness. The industrious cottage workers of Germany, with wood and carving tools, paint and glue, tin and tow hair, made gaudy, flimsy dolls and animals and carts, which caught the childish eye, sold for a few pennies—and lasted a few hours.

But American toys are educational. They comprise miniature boats that run by clockwork, miniature engines that run with real steam, structural materials of metal and wood with which children can build things, electrical toys that impart practical lessons, sidewalk toys that yield exercise as well as play. In other words, we have created not merely a new toy industry but a new toy philosophy.

The inquiries have been pouring into this manufacturer's office, too. They have come from Latin America, Australia and pretty much the whole toy-hungry world. Nine inquiries out of every ten are for the cheap, showy playthings of the Black Forest, indicating that the world has yet to hear about the new philosophy of toys—well-made, lasting, educational American toys that meet children's desires for something to play with and at the same time take into account their inborn instinct for the real and practical. This manufacturer is not going to try to compete with cheap foreign toys of yesterday, he is going to promote the educational American toy of to-day—and doing the job appeals to him as a fine sporting proposition.

Yesterday, the American who went abroad for business was usually a single-handed adventurer, working against every handicap. For American business at home did not take him into account in its plans. It regarded him as an exile, if not a fool, for going to other countries when there were so many opportunities in his own.

IV

Up in Michigan, during one of our money panics, a lumber dealer lost his business. He had a "hunch"—a wild idea—that Yankee slot machines of the gambling variety might appeal to French people, who were Latins and therefore ought to be careless and joyous with their money. So he set out for Paris with some sample machines and rented a little office. The first two weeks, not knowing a word of French, he had difficulty in even ordering anything to eat. The French customs officials held up his samples; they had never seen anything like them before. There was a cab stand under his office and he learned French from the cabbies—and it was the real article! Then he got one of his slot machines released from red tape, took it in a cab to the chief of customs and let this official feed centimes into it until he got the idea. Presently he had a good business going in Paris, then throughout France, and was expanding into Italy and other countries.

Nobody but an American was likely to put through so original and difficult a job of business expansion.

Did American business appreciate him?

It did not!

All his business had to be done through foreign ships and banks. Again and again manufacturers in this country delayed shipments of machines—because times had grown good again here at home and they were branching out into the automobile business. He wanted some special machines adapted to European taste and coinage. They promised to make them . . . and promised . . . and promised. Only when he took ship for New York and arrived at the factory and stayed on the job himself did they make what he wanted. Finally, this adventurous American, who from all American business standards then was regarded as crazy, cut the slender trade line that bound him to his own country and began making machines himself abroad.

Contrast with this the experience of another American, who went abroad twenty odd years ago to make a place for himself in business, but on a very different basis. Instead of working against the difficulties that would have been imposed upon him by American business provincialism at that time, he found connections with a British concern, thoroughly at home in world trade and working for solid results year after year, backed by British ships, British banks and the British world viewpoint. He had a profession, that of mining engineer. They sent him successively to Australia, China, Burmah, Siberia, and finally all over the world. At twenty-four he had a comfortable fortune, before thirty was a millionaire, and to-day is honored all over the globe—for his name was Herbert Hoover.

V

A Philadelphia manufacturer got out a fine pamphlet about his products and hit upon the bright idea of sending copies to several hundred English business concerns, to make friends and customers. But, instead, he roused a storm of angry protest—for his office boy mailed each with a two cent stamp and every Englishman who got one had to pay about a shilling postage.

The London office boy not only knows how much postage to put on anything mailed to any country, but can tell you what day and hour the next steamer leaves and when the mails close.

In normal times it is exceptional to take a passenger steamer anywhere in the world without finding one or two British engineers or bank men or other experts on their way to examine and report about some promising enterprise for British capital—a mine, a plantation, a public service project. Sometimes they are going out or coming home to London for a big corporation, and again they work for a small development syndicate of a kind which is common in London and illustrates the world viewpoint which creates world trade. This syndicate may be made up of a dozen or two dozen or fifty business men, who have salaried positions or enterprises of their own but from time to time put a little money into development in other countries. They hear of a mining or plantation prospect in South America or India. A company is formed with shares of, say, one pound par value—five dollars. Members of the syndicate subscribe for these shares, pay in a shilling on each one, and the money is used to send out an expert and make an examination and report. If the prospect looks good, another shilling or two is paid in on each share to start the work and further assessments are made as money is needed. Very often, before half the par value of shares has been paid in this way, the new business overseas is self-supporting or paying profits or it may be sold at a big profit to someone who wants to own it or a larger corporation is formed and stock sold to other investors.

That is the way the British do the thing. This is the warp and woof of British world trade which began to develop almost with the discovery of America. It thrashed the Spaniards and Napoleon and the Germans. It developed the modern industrial system and it fills British ships, supports British banks, keeps British money at work and extends and makes prosperous the broad British dominions.

Thanks to the jolt of war—clearly nothing but a world war would do it!—we now have some of the machinery necessary for world trade along the same lines. We have the ships a-building, some of them under steam. We have branch banks abroad and the American banker seeking world jobs for American dollars. We have the beginnings of a real world viewpoint, which has grown partly from our daily news interest in other lands the past four and one-half years and partly from the experiences of the millions of Americans who have gone abroad in military and other service. Moreover, the world has a new view of us and demonstrates it in the practical form of inquiries, orders, applications for capital and for American technical skill and business management.

VI

What we need now, chiefly, is a straightforward business policy for our merchant marine and world trade generally, backed up by continuous interest in world trade. When we have a consistent policy and the will to do, then Americans will find world travel as much a part of normal business experience and advancement as do other nations. There will be places on our ships. There will be opportunities for selling goods abroad, and in branch houses and banks, and investigating prospects for world-wide enterprises.

For a concrete illustration, take the war experience in meat packing of Florida and Brazil.

Florida had thousands of weedy little cattle, with natural advantages for livestock raising, in 1914. But she had no packing plant nor any livestock market outside her borders. Chicago packers began buying the little saw palmetto cows to put in cans for European army rations, which led to the building of modern packing plants in Florida, the development of good cattle and hogs, and a general farm uplift. All of which had to be done by a little group of experts from Chicago, colonized in Florida, so to speak. So many new opportunities to become managers, creators of new processes and projects, with increased earning power and a good outlook for getting into business themselves.

In 1914, Brazil could hardly produce enough meat to feed herself and had never exported a pound. War woke her up, and after investigation and improvements in livestock methods, she invited American capital in to build packing houses. Chicago on the job again! Today she has three big plants, and during the next five or ten years will build up a great industry, feeding meat-hungry Europe. She has just sent a Brazilian consul to St. Louis, for the first time, to promote closer business relations with our Middle West. And this official, Dr. Sebastiao Sampaio, can put the finishing touches to the picture.

"We are counting on American brains, American machinery and American capital to help us develop this industry," he says. "I have received inquiries from American interests seeking extensive grazing lands in Brazil. It may surprise many Americans to know that Brazil is a larger country than the United States by about 200,000 square miles. The United States and Brazil will have to feed the European countries for years to come; after the war of 1870 it took France ten years to rehabilitate her cattle herds."

These are the sorts of enterprise that will call thousands of young Americans abroad to-morrow. They will take ship for Rio, Callao, Sydney, Naples, Vladivostok, Bilbao, Tampico, Shanghai, Yokohama, Bombay. They will sail out of ice and snow at home and drop anchor at sunrise in tropical harbors, blue bowls edged by palm and banana. They will explore remote regions to develop the mining of metals and gems. They will supervise the growing of coffee, tea, rubber, spices, palm oils, tropical fruits and like products, and devise economies in handling, and applying the magic of chemistry and industry to by-products. They will do this because American business spirit will have real roots in other countries, and its own characteristic machinery and organization to work with. And then, if a Peary, revisiting the Pole, should really find the traditional Scotchman sitting on top of the world, there ought to be an American playing poker with him.



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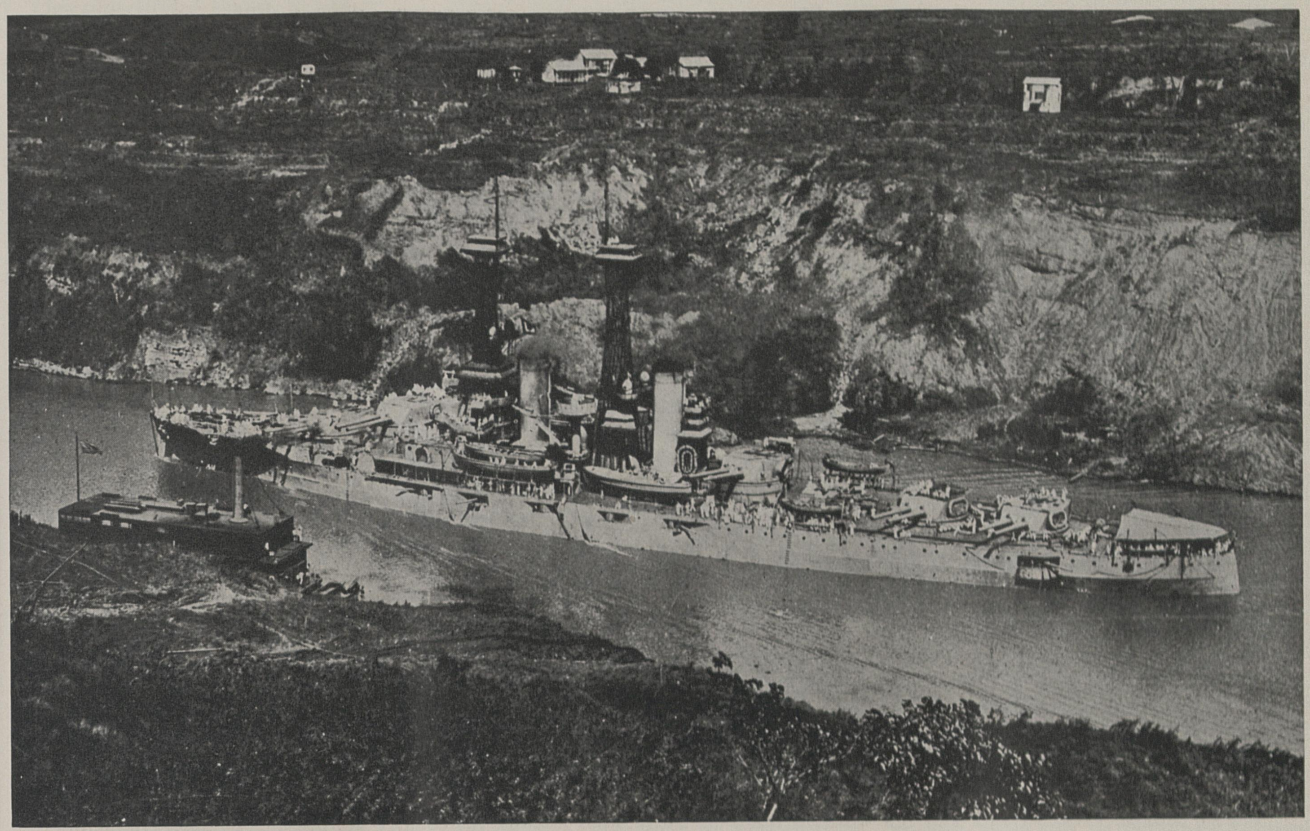
"The Yanks are Coming." What a convoy looks like from an aeroplane



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The battleship North Dakota passing through Culebra Cut as she went from the Atlantic to the Pacific by way of the Panama Canal



© *Underwood & Underwood*

Though little was said about it during the war, the Panama Canal proved its value during the struggle. Here are two merchant ships passing in the Gatun locks, one bound from New Zealand to London, the other from the U. S. to Chile



Although proverbially a hustling Commonwealth where native capital competes energetically with American dollars, British pounds, French francs and the working funds of many other nations, the country yet presents as chief characteristics scenes of Biblical tranquility. But, hand in hand with the serene romance of this industry, runs the romance of keen business in which American wealth has a stake. There are several sheep raising organizations in Australia in which American money is invested. While posing for a typical Corot painting, these sheep are bringing dividends home to Americans.

Around the World with the American Dollar

By **HOMER JOSEPH DODGE**

II—Australia, the world's oldest country, presents the newest frontier of industry, agriculture and trade

AUSTRALIA PRESENTS a curious paradox. Scientists tell us that the great continental island on the edge of the Antarctic Sea represents the oldest geological formation in the world. They hold up to the wonder of mankind the marvelous survivals of prehistoric times in the animal, mineral and vegetable kingdoms. From the purely evolutionary-historic point of view, Australia is the aristocrat among continents and boasts a lineage beside which that of Europe and America seems parvenu.

And yet Australia is the newest world for mankind to conquer. Taken as a whole, the great Commonwealth is practically virgin, if that is possible. It represents the vastest area of uncultivated and unpopulated tenable, arable land in the world.

Because Australia is so new, American dollars have not yet had time enough to take firm root there and therefore American investments in the Commonwealth are not extensive. At the same time, the very newness of Australia is an attraction to this country. Americans see in this great nation a fertile, almost untouched field for development and, as every school boy knows, the new thing is the thing for America.

It is the boast of Australia that even her man-made institutions are the most up-to-date in the world. The people of the Commonwealth take a peculiar pride in being even more modern than America and they claim, with no little color of truth, that their institutions are nearer perfect than those of any other section of the world.

It is a curious thing that the auspices of foundation may not be taken as reliable indices of nations, peoples and governments. As all the world knows, Australia was founded as a penal colony, although Australians do not relish this illusion any more than San Franciscans relish the suggestion that it would not be beyond the realms of possibility for the Californian earth to quake. But conservative and unbiased persons know that the six men of Dorset, poachers, horse-thieves, murderers, assassins, housebreakers, hedgerowmen, cut-pursers, vagrants and others of that ilk were transported by His and Her Majesties' Government to Australia to learn better ways. They did so, and to-day Australia stands as such a model of democratic government that a question arises as to whether a William the Conqueror or a Galloping Dick makes the better ancestor.

The rule appears reasonable that a nation thrives because of foundation by fugitives.

Our own United States, it will be recalled, was so founded. The Puritan pilgrims who came to Plymouth Rock in the capacious *Mayflower* were fugitives from harsh British laws which forbade religious tolerance; the cavaliers of Virginia fled from the Puritan Roundheads when they had gained the upper hand and also from the economic conditions in England which made the western wilderness appear desirable in comparison. North Carolina was settled by the Scots fugitives who escaped or were exiled after Preston Pans, Culloden and Flodden Field and Georgia was an out and out penal colony. It has been suggested that the fugitive idea was so thoroughly inculcated in the minds of the American and Australian settlers that they still retain it and the inbred instinct of haste and dispatch is responsible for the characteristic hustle of these peoples in present times!

But these are questions for the richly tutored. Whatever the underlying cause, the fact remains that Australia and the United States now have a close bond of relationship, one of the principal results of which will be a vastly increased trade. Both nations are awake to this promise. The Australian Commonwealth has just accredited to this country a special trade ambassador, Hon. Henry Yule Braddon, who has recently established headquarters in New York City and will keep closely in touch with American-Australian interests, developing and fostering the relations which have sprung up, accelerated by the war. The United States shortly will send a special trade commissioner to Australia to perform similar services.

Our trade with Australia maintained a fairly even tenor up to the outbreak of the European War. With that event, the Commonwealth turned her attention and applied her resources to the benefit of the British Empire and her trade was allowed to lapse. Now, it is coming back strongly.



Australia is above all a pastoral, rather than an industrial country. But American capital is to a large extent farmers' capital and more and more it is becoming interested in the vast plantations and ranches of the great Commonwealth. In the far distance beyond these vinyards gleam the roofs of the Port of Adelaide.

In 1908 the United States sold to Australia goods to the value of $28,000,000 and purchased from Australia $11,000,000 worth. In 1913, the last full peace year, American exports to Australia were $43,000,000 and imports from Australia, $11,000,000. In 1917, the American exports had risen to $63,000,000 and imports had reached $13,000,000. In 1915 the imports from Australia were $24,000,000 and in 1916, $54,000,000. These abnormal figures result largely from the wheat, wool and meat imports which were largely reshipped to Europe and do not represent the normal flow of trade. It appeared that while the United States was steadily increasing her sales to Australia, that nation's sales here held about even from year to year.



Australia has not been trammelled by old facilities for handling her trade. The country is new in so many ways that the rapid development of her commerce has resulted in the construction of the most modern, efficient and economical systems for handling goods. Here is shown the way in which land and water transportation facilities are brought together. Goods from far inland may be unloaded directly from the railway cars into the holds of freighters.

The latest figures available, those for the month of January, 1919, show how Australia is coming back. For that month her sales to this country amounted to $8,000,000, compared with about $2,000,000 in January, 1918. For the seven months ended with January, 1919, her sales to the United States were $50,000,000, compared with $20,000,000 for a similar period the preceding year. In January, 1919, American exports to Australia were $15,000,000, compared with $7,500,444 in January, 1918, and for the seven months ended with January, 1919, American exports to Australia were $65,000,000 compared with $40,000,000 for the seven months ended with January, 1918. It isn't unlikely that the full year will show sales of at least $100,000,000 by each trader, the United States having not nearly so much the better of the balance as in the past.

Embargoes and import prohibitions have so seriously interfered with the normal courses of trade that it is difficult to calculate trade possibilities, but it is certain that Australia is making an effort to enlarge her sales abroad, particularly to the United States.

American-Australian trade will be greatly facilitated by the fact that during the war Australia adopted dollar exchange and probably never will return to the pound sterling medium which before had been the standard. This is a decisive trade victory for the United States and doubtless will result in more trade than would have been likely under the old exchange system. Dealings may be direct, instead of going largely through London.

It must not be assumed that Australia is going to permit Americans to come into her Commonwealth and capture her market entirely. Under the new doctrine of economic self-reliance which she, together with practically all other nations affected in any way by the war, have adopted, Australia intends to have her domestic industries, so far as possible, supply her wants, exporting the surplus. The competition which American export trade faces in this field is with the domestic industries. J. K. Samuel, British Imperial Trade Commissioner at Port Adelaide, in a report to the Crown, says: "American and Japanese goods have been



It did not take the great American manufacturers of farming machinery long to realize what an extensive market Australia affords for their class of products. The wheat barons of the Commonwealth are good buyers of the most modern machinery and American manufacturers have been enterprising in moving large branches bodily to the seat of this business. Here is the office building of a great agricultural machinery company at Melbourne.

coming to Australia to a greater extent than before the war, which is only natural. Whether America and Japan can hold this trade after the war depends on the energy with which the competition is met by the British manufacturer."

One factor in favor of American trade is that it occupies a favorable position in relation to the Japanese competition. Japan has made a brilliant effort during the war to extend her trade and has been conspicuously successful but reports from many sources indicate that the quality of her goods is not high enough to insure permanent connections. This complaint has been voiced in America and G. T. Milne, His Majesty's Trade Commissioner in the Commonwealth of Australia, in a recent report, says:

"Complaints are numerous as to the unsatisfactory character of many Japanese goods and to Japanese conditions of trading generally."

Reports from Australia are continually emphasizing the falling off of orders of certain lines and this is credited to the action of Australia in making for herself these goods. Here is where the American dollar should show its adventurous spirit and, accepting the challenge, go to Australia and acclimate itself.

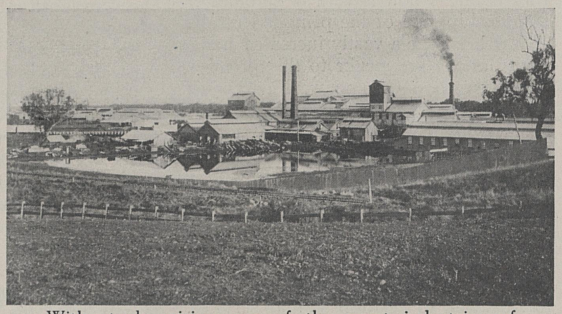
A good start has been made and already Americans have fair investments in the great Commonwealth. Because the enterprises are relatively new and the country not intensively organized, exact data on the extent of American investments are not obtainable. Mineral ventures have been made to a considerable extent, American capital having gone into the great gold mining enterprises. But the great industry of Australia is agriculture. Just how many Americans have invested in Australian wheat farms cannot definitely be stated but there have been a number of such adventures, nearly always accompanied with success. The same is true of the cattle and sheep industry. While numerous Americans have entered the raising end of this business, the greatest amount of American capital is doubtless represented in the packing establishments. Losses entailed by shipping livestock from the Australian ranches across the vast expanses of ocean intervening between the Commonwealth and the world market for meat, have prompted packers to enter the meat killing and packing business on a large scale on the ground and nowhere are there finer and more modern packing plants than in Australia. This is a new industry, relatively, and is in its infancy. American packing efficiency here has an excellent opportunity and is availing itself of the situation.

Investment of American capital in Australia will be greatly facilitated by the inauguration of express steamship lines between the United States and the Commonwealth. New lines are badly needed and, if put into operation, doubtless would prove largely profitable, because this country is the nearest English-speaking nation to Australia, considerably nearer than England.

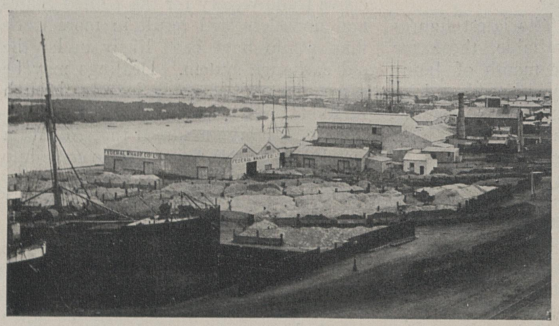
The various provinces of Australia have different laws governing tenure of land by aliens and the doing of business by foreign corporations but on the whole the laws are not inhospitable and decent opportunity is accorded to foreign enterprise.

American capital is invested in Australia to the extent of approximately $25,000,000, divided among the packing, mining and stock raising industries and the railroads.

Most of the railways in Australia are government owned. American enterprise has done much toward equipping these lines and the Commonwealth has provided an excellent market for American manufacturers of railway supplies. It is to be expected that with the end of the war the extension of the railways will be renewed with vigor and this should afford an excellent opportunity for increased sales to the Commonwealth.



With stock raising one of the great industries of Australia, it is only natural that the packing house business should spring up at the source of supply. American packing capital is well represented in the Australian industry, the plants being models of modernity and efficiency.



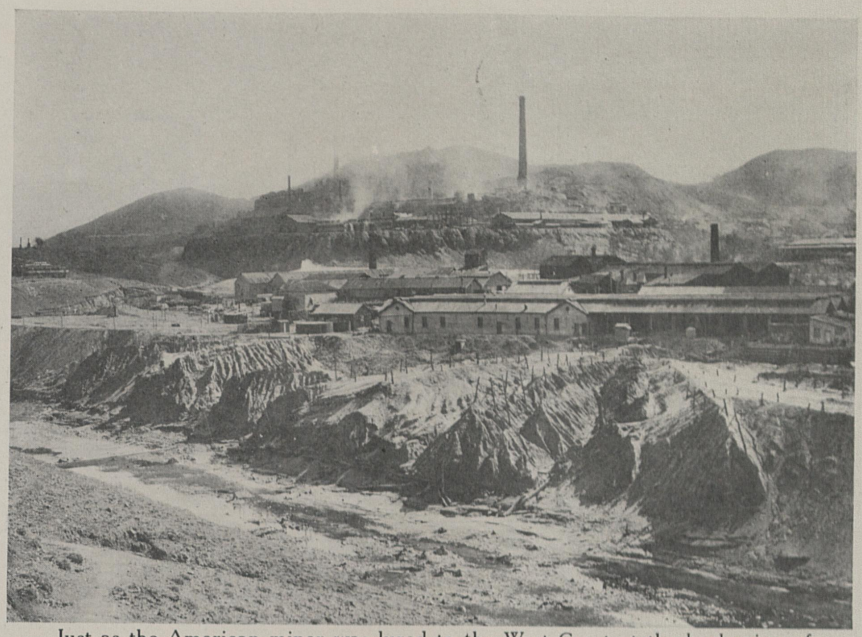
Australia is well served by British steamship lines but sees the Stars and Stripes floating from the mast-heads of windjammers more often than over the taffrails of liners. The American sailing ship is making its last stand in the Australian wheat trade, and the spars and rigging of these windjammers are familiar representatives of adventuring American dollars.

Australia is rapidly becoming a manufacturing country and the demand for certain American machinery and machine tools is increasing. As a majority of the engineering establishments are also jobbing shops, the engineers in charge are averse to buying from catalogues but desire actual demonstrations, especially of new machines, and the majority of sales are accordingly made after a sample machine has been received by the agent or importer. A substantial additional discount on introductory orders should be allowed, particularly in highly specialized lines, as otherwise there is not sufficient incentive to warrant the importer

taking the risk of the machine not being a success. Types of American machines, which have subsequently enjoyed exceptional sales, have been kept off the Australian market for years because the manufacturers did not put a sample machine into the hands of a good agent and were finally introduced by the importer who took a chance on their success.

The majority of the manufacturing plants and the largest engineering shops are situated in Sydney, New South Wales, and Melbourne, Victoria, which places produce an equal amount of manufactured goods. The former took 53 per cent of the imports of machine tools in 1916-17, and the latter 37 per cent. The territory of Queensland, however, with its rapidly expanding meat trade and meat-canning industries will show an increased demand for machinery and machine tools in the next few years, although taking only 4 per cent of the total imports of machine tools in 1916-17. The same is true of Western Australia with its gold mining developments. Wool and textile manufactures are the leading industries in Victoria and New South Wales, and their growth has been hastened by lack of shipping facilities which has cut off Australia from foreign markets.

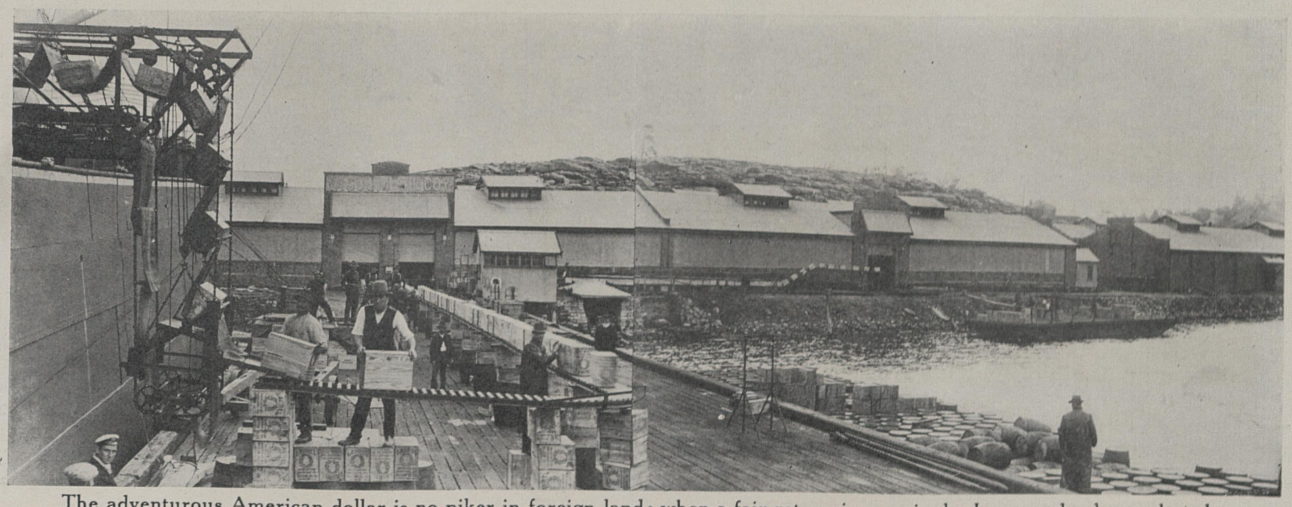
The exclusive agency is accepted as the most satisfactory method of selling machinery and accessories in Australia. Some of the established agencies have a certain circle of customers, but progressive agencies make themselves of general service to all customers. Moreover, in a country like Australia where vast distances must be traveled seeking orders and modern machinery is just being introduced, it is only fair to the agent who has stocked a machine, which may sometimes prove unsalable, that he be protected by an exclusive contract. If proper care is taken in the selection of a progressive house there is little fear that such an arrangement will be used to stifle competition, such firms generally being as anxious to develop business as the manufacturer.



Just as the American miner was lured to the West Coast at the beckoning of gold, so the American of to-day is investing his money in gold mining operations, no matter in what land they are carried on. Methods are more up-to-date and extensive gold workings are thoroughly equipped with all necessary machinery.

Since the war Australian importers have arranged for payments "cash against documents" in New York, and there is little probability of an early return to the old method of sight drafts with documents.

The Australian import agent seems to have legitimate fault to find with the American manufacturers' optimism in making delivery promises. It is, of course, open to question whether under the abnormal war conditions any industry can function with the same precision as in peace time, and now that peace is at hand American manufacturers will be quick to convince Australian importers that they are as ready and willing to make as satisfactory deliveries as other countries. All the Australian agent seems to request is that orders be delivered in the same rotation as received; any other treatment is not only unfair but a source of embarrassment and expense to the importer who has given his customer a specified date of delivery. Perhaps the importers would not complain if they were quoted definite dates of delivery even three times as long as those given, as they would then know what to expect and could explain to their customers; but a short-sighted policy of promising all orders at delivery dates impossible of execution is to be avoided.



The adventurous American dollar is no piker in foreign lands when a fair return is promised. In a new land none but the newest methods may survive. These modern docks and warehouses of an American oil company are equipped with mechanical conveying apparatus from Milwaukee, U. S. A.



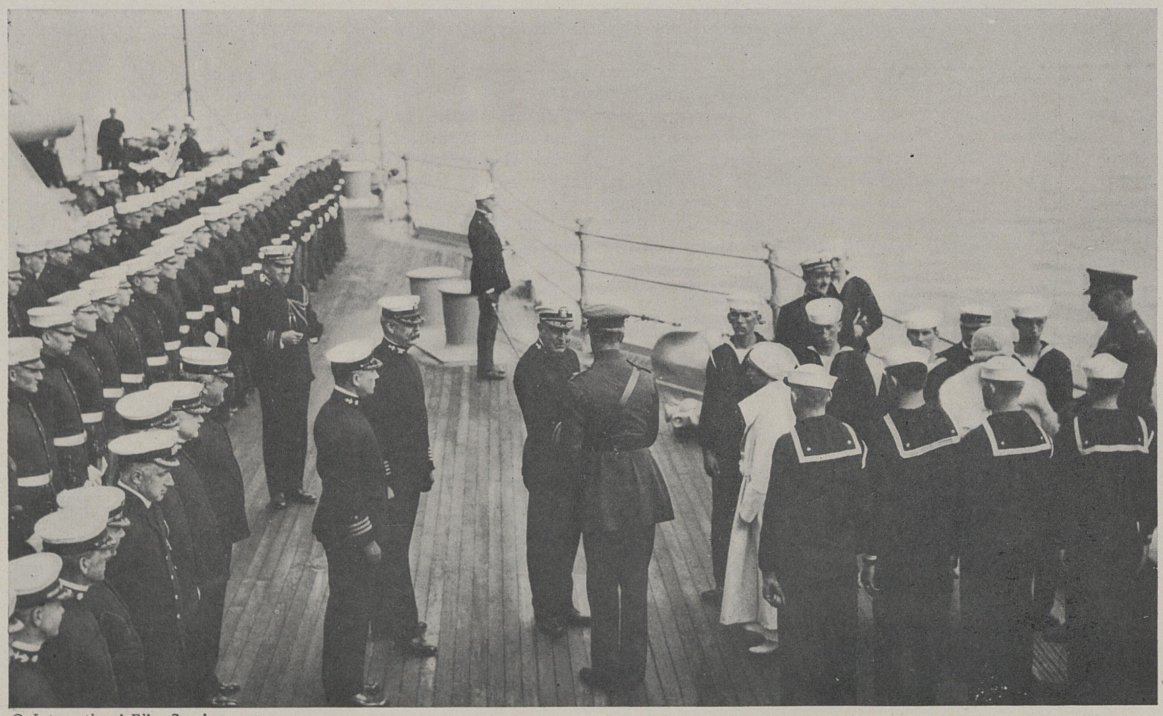
Whether it be for plowing and planting, reaping or hauling the product to market, American farming machinery and tractors are in evidence in Australia, Rumeley, International Harvester, Deering, McCormick—all the great names associated with the forward strides made by Americans in modernizing the winning of foodstuffs from the earth are well known in the Commonwealth of Australia.

Foundation plans, instructions for setting up, and information regarding the working of machines are all greatly desired. Such information is usually the sole guide of employees who work the machines, and in many cases newly introduced types of machines can be satisfactorily set up in no other way than by following printed instructions. In one instance a fairly intricate automatic gear cutting machine was ordered and instructions specifically requested, but no attention was paid to the request, and when five more of the machines were ordered the same thing occurred, so that the matter could not be attributed to oversight.

Practically all machinery is subject to customs tariff in Australia and must undergo inspection, and for this reason it is preferable to leave one board on the top of the case not hoop ironed and nailed but simply screwed down. This board should be located so as to allow a good view of the machine. The loading and warehousing facilities in Australia are not the best and few cranes are employed, so that strong packing is desirable.

Lathes are the most important essential in the machine shops which are springing up in Australia. As the majority of the work of these shops is jobbing, the machine tools should be universal. Gap lathes, for instance, permit one machine to cover a large range of work and are very popular in Australia. One American machine of this universal type has enjoyed a very large scale. Most of the American gap lathes before the introduction of this one were cheap, and light tools are not in demand. Another popular lathe of English manufacture has very large bearings and a rugged headstock which appeals strongly to the Australian market and is in more universal favor in large mining shops than any other tool.

The price of American planers as compared with that of English makes is disproportionately high. Though the American planers are very high grade, with a number of automatic and convenient feeds, these conveniences have made the price too high for the Australian market and at present there are not half a dozen of these machines in use in that country. A moderate-priced simple planer could be introduced to advantage. This is equally true of punches, shears, rolls, and other tools used in shipbuilding and structural work, our price of which is out of all proportion to the prices of British makes.



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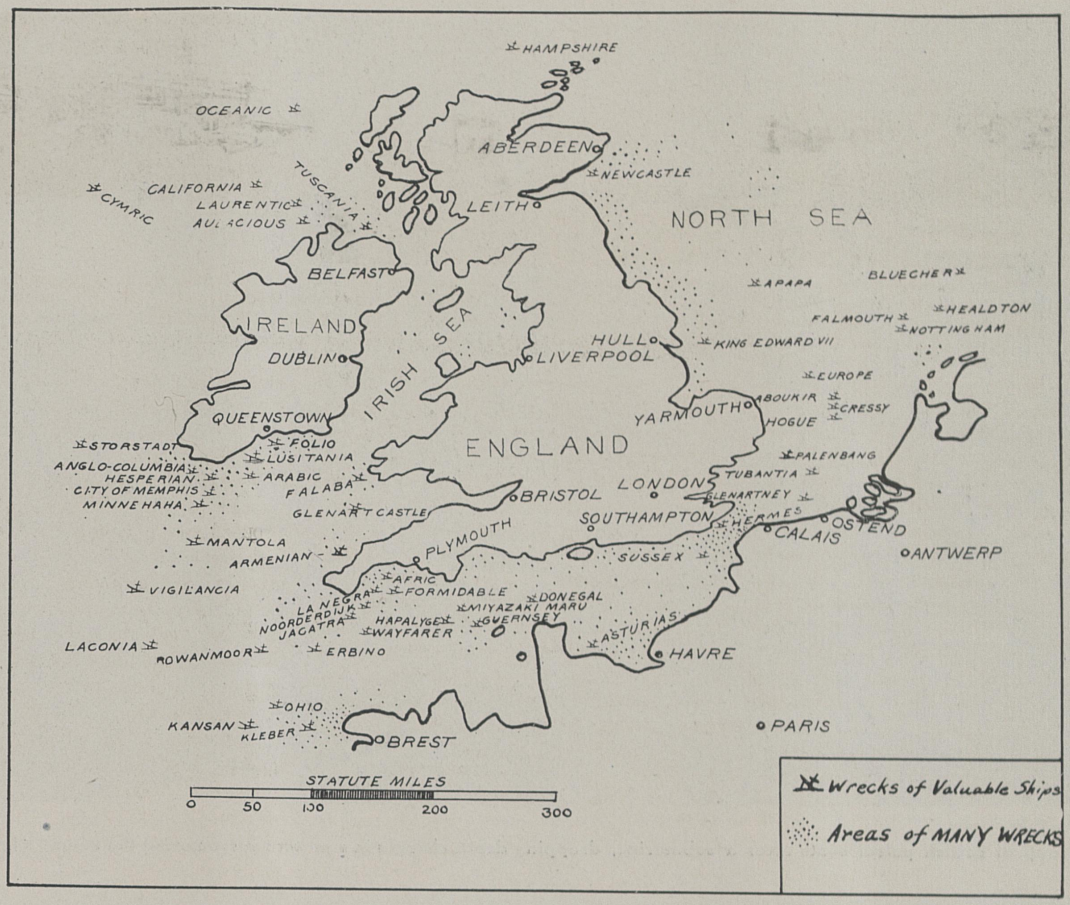
Before our battleship division left European waters, the King and Queen of Belgium paid them a visit. Here King Albert is being greeted by Rear Admiral Hugh Rodman on the quarter deck of the U. S. S. New York



The Wreck Strewn Waters of Britain

By **WENDELL M. WHITING**



THE WATERS about the British Isles have always been hazardous for navigation, especially during certain seasons of fog, storm and gales; but for a while to come these waters will be more dangerous to navigation than ever before. This is due to the many wrecks strewn throughout the North Sea, the English Channel, the Irish Sea and the waters of the Atlantic off the southwest coast of Ireland.

It is going to cost considerable to remove many of these dangerous wrecks and the German Government that ordered the U-boats to commit these depredations should be held to account. The Hun subs are responsible for the hundreds of ships sent to "Davy Jones' Locker" during the past four years of war.

Many of these ships were sunk in water too deep to incur any danger to navigation but there are also many located in the approaches to harbors, in channels and passages that are much used, and these necessarily must be removed to insure safety to the shipping that must be carried on now that the war is over.

There are several localities where the wrecks are particularly numerous. There are more in the narrow Strait of Dover and its approaches than any other place. There are also many all along the south coast of England and along the east coast from Hull northward to Leith, Scotland. Off Yarmouth, about half way to the opposite shore, we find the wrecks of the three British cruisers *Hogue, Cressy* and *Aboukir,* which were sunk early in the war. Farther to the north and well out in the North Sea the German battle-cruiser *Bluecher* was sunk.

Off Plymouth, on the south coast of England, lies the wreck of the British battleship *Formidable.* There are many wrecks off the south coast of Ireland in the approach to Queensland. Here was sunk the *Lusitania,* which was one of the particularly dastardly crimes of the U-boats that probably did as much as any other thing to turn practically the whole world against Germany.

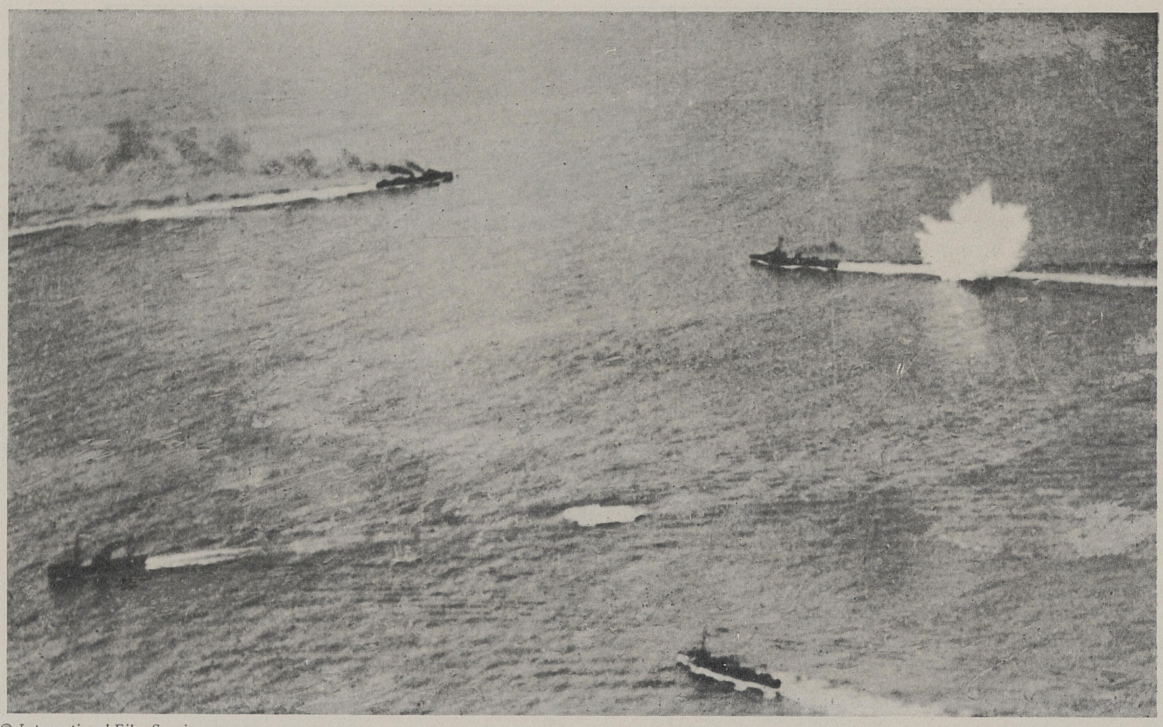
In the approach to Brest and Havre there is also found the wreck of many a ship. Off the north coast of Scotland lies the wreck of the *Hampshire,* the ship upon which Lord Kitchener lost his life.

The usual way of getting rid of dangerous wrecks is to blow them up, but no doubt there will be considerable effort made to salvage a number of these vessels, for many of them carried extremely valuable cargoes.

The English, in fact, have already salvaged a number of ships, reported from unofficial information to be several hundred in number. So far as is known there is no very accurate estimate of the value of the combined cargoes of all ships of all nations sunk during the world war, but it must be a tremendously high figure.

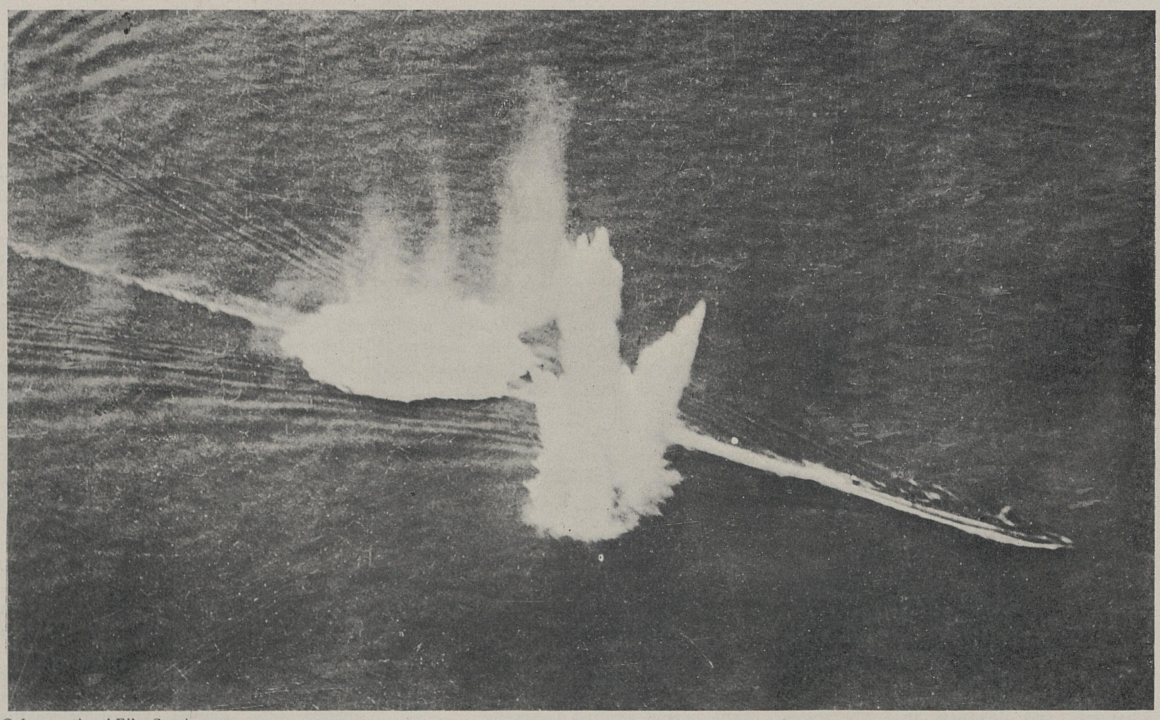
There are many mine fields throughout these same waters and they must also be eventually cleared up. The Navy Department has very recently ordered a number of mine sweepers to these waters to help in this task.

Indeed, it will be some time before the waters about the British Isles are in a normal state, such as existed before the great war, and vessels can again navigate with safety.



© *International Film Service*

A group of British patrol boats after a submarine, dropping depth charges in a pattern surrounding the enemy's position



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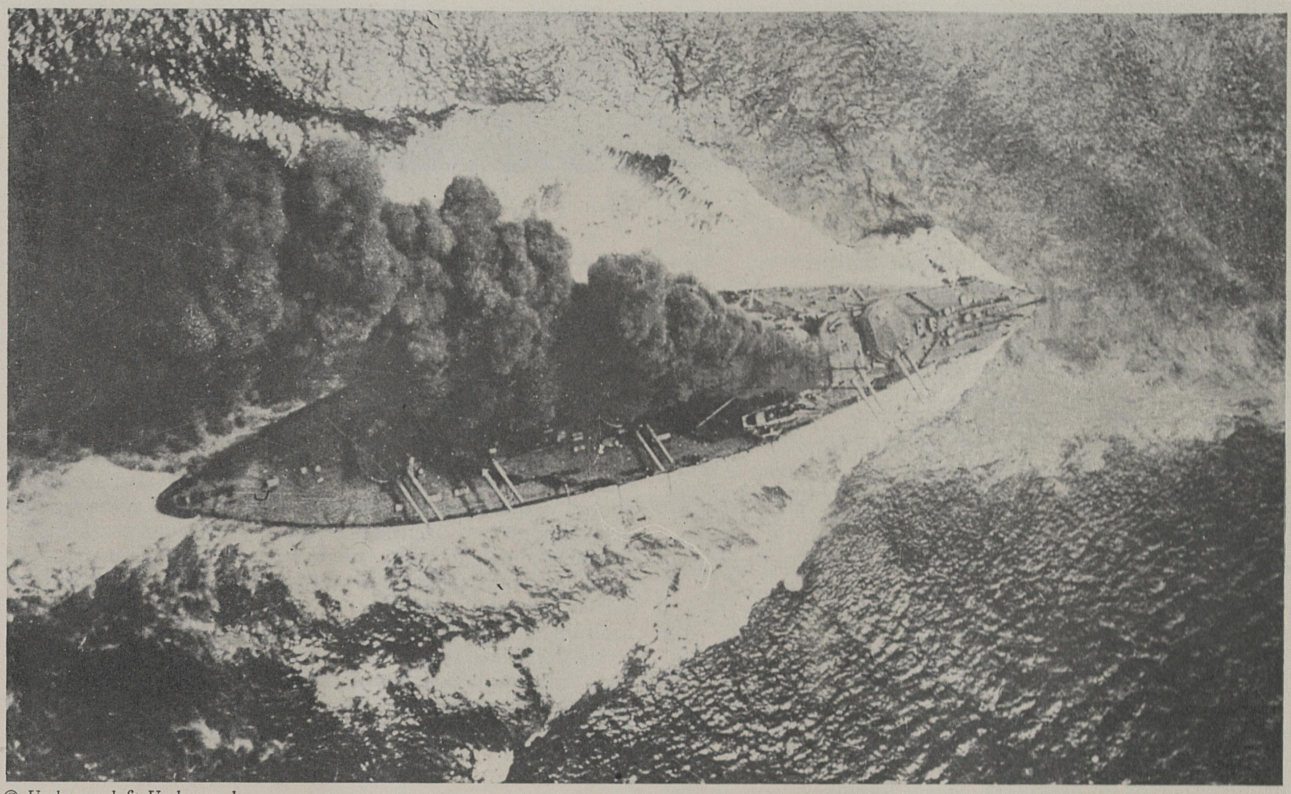
This patrol boat, summoned by wireless, has located an enemy. Running along the Hun's course she has dropped a depth charge astern and fired two others from her projectors. Another "ash can" will go over the stern in a moment



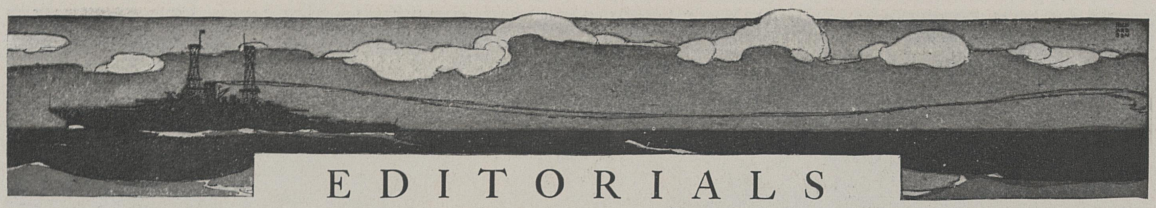
© *Underwood & Underwood*

A British battleship starting a smoke screen. Dense clouds of greasy smoke pour from her funnels and seem to cling to the water, forming an opaque screen. She is cleared for action and her turret guns are trained on something to starboard



© *Western Newspaper Union*

A Hun U-boat came up for a "look-see" but was spotted by a dirigible, which dropped a bomb on him as he submerged. The oily swirl that marks the last of the pirate may be seen just clear of his slayer's shadow



EDITORIALS

What Sort of Capital Ship?

THE CONTROVERSY as to the type of capital ship to form the backbone of the world's navies is no mere technical wrangle between experts but a vital question the solution of which will affect naval construction for a decade. At present there are two types, battleships and battle cruisers. Battleships are heavily armored to keep out hostile shot, carry heavy guns and have fair speed. Battle cruisers have fewer heavy guns, little armor protection and high speed. It is proposed to build larger ships of high speed, retaining the battleship's guns and most of her armor protection. Such a "composite" ship will be very expensive to build and maintain, yet if she is to be the coming type of fighting vessel, we must face this increased expense and build the requisite number as soon as possible.

So important is this question that the Secretary of the Navy has sailed for Europe to study there the lessons of the war, taking with him his technical advisers, the Chiefs of the Bureaus of Construction and Repair, Steam Engineering, and Ordnance. Pending the decision of the Department, work has been suspended on the battleships and battle cruisers of the 1916 programme, the construction of which was delayed by the urgent needs for destroyers. Space forbids us to go further into this question here, but on another page in this issue will be found a fuller discussion.

INSIDE OF ONE MONTH after the signing of the armistice the Press on the two sides of the Atlantic was voicing sentiments of Allied rivalry or differences as concerns our ships and our shipping policy. History warns that this is a subject loaded with danger. Let us not forget that only a few years after Yorktown, France and America were fighting each other at sea; that Washington and Lafayette were in arms, hostilely opposed—and all concerning ships and maritime policy.

Amending the League

WHEN SENATOR LODGE and President Lowell got through debating the League of Nations they found themselves nearly in agreement.

That's almost funny, if you look at it from the standpoint of extremists on either side who are saying on the one hand that the world will go to smash if the League is not adopted instanter as it came provisionally from Paris and on the other hand that it is fundamentally vicious or foolish and should be teetotally scrapped.

If you look at it from the standpoint of the level-eyed observer who has seen mankind through all the ages find its way, blunderingly and painfully but resolutely and surely, along the middle way of reason and concession, you will find cause to hope that out of the angry contention of the hour will come a practicable or a promising compromise which will compose the hysterics incited throughout the whole civilized world by four years of bleeding, rasping tragedy.

Here are two well-trained intellects, poised, studious, analytical, moved by the same spirit of patriotism, the one accentuating national independence, the other international peace; the one desirous of world concert for peace but doubtful of this expedient, the other convinced of its intrinsic virtues but frankly critical of its present imperfections.

The partisan and the foolish aside, the great body of the American people no doubt may be classified in much the same manner. College students of advanced rank may be called fairly typical of thinking Americans, and here come Williams College students to the number of 218 voting in favor of the principle of the League with only 12 against; 85 in favor of the constitution of the League as drafted and 152 against it; 98 favoring the inclusion of the League covenant in the peace treaty and 123 against.

Since the debate between Senator Lodge and President Lowell the disclosure has been made that at the time the constitution of the League was adopted at Paris, each of the leading peace commissioners participating and speaking to the subject expected amendments before the final draft. The neutral nations invited to become members have proposed some thirty amendments. Therefore, the document which the President brought back from France is not sacrosanct, nor will the document later to issue from the Paris conference be sacrosanct, for it must be ratified by the several governments recording the judgments of the several peoples of the world. Even if it should come in a form presently acceptable, time and changing circumstances will exhibit needs for amendments. We have amended the American Constitution 18 times in 132 years, and we fought a great war over one set of amendments.

It is fatuous to hold that the deliverance from Paris must be accepted like that from Sinai.

Let us all approach the subject in the admirable temper exhibited by Senator Lodge and President Lowell. Let us not surrender our democracy of thought, our sovereignty of popular determination, and let us be sure that we are deliberate and considerate as well as democratic and sovereign.

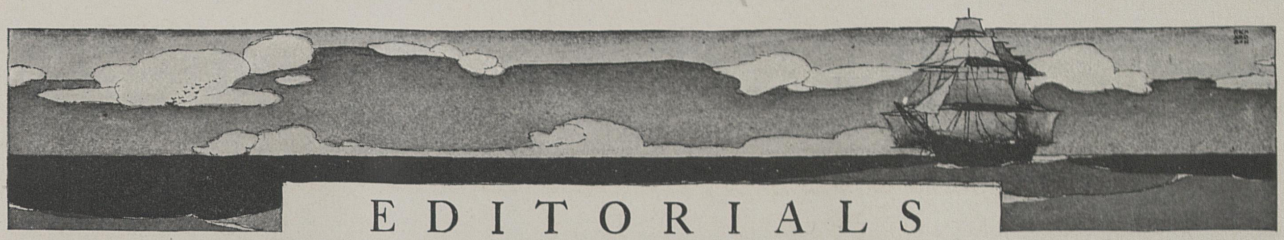
AN EFFICIENT NAVY never has existed, and cannot exist, without a commercial marine; and the maritime history of Europe, which abounds with instruction on this subject, demonstrates this political truth, that the naval power of every nation is in proportion to its commercial shipping. Money may build ships, but the navigation of the great ocean only can make seamen.—RUFUS KING.

College Training for War

THE AVERAGE AMERICAN is apt to think of our colleges as turning out each year a few rather spectacular athletes and a number of impractical, dry-as-dust scholars. He is inclined to belittle the value of college training in the workaday world and can see small use for the "rah-rah boy" in the grim business of war.

Let us examine the record, passing over for the moment the college man's place in industrial management, in the commissioned grades of the Navy and Army—particularly in the non-combatant billets, essential as they are—and consider only the rank and file of the fighting units. Let us take as our subject the Sixth Regiment of Marines, for that organization contained 60 per cent of college men, men who volunteered in the first days of war without thought of commissions or personal advancement.

Now it has been for centuries a military axiom that an organization cannot be relied on in battle until it has been seasoned by repeated conflict, that such an unseasoned force cannot face unshaken more than 10 per cent of battle casualties; that when its losses have reached that figure it should be withdrawn for rest, drill and replacement. Indeed, history holds many examples of new troops that have broken long before their losses have reached one-tenth. The very word "decimated" pictures to us frightful destruction of life, though



EDITORIALS

its primary meaning is "to take the tenth part of." What, then, could reasonably be expected of these young college men, these delicately nurtured boys whose imaginations would call up vivid pictures of the horrors of mortal conflict?

Yet these youngsters, many of them under fire almost for the first time, showed at Chateau Thierry and in Belleau Wood that they could suffer losses of more than two-thirds of their number and still advance. Day and night for twenty successive days they stayed in action in smoke and gas and gloom, under shell fire and machine gun fire and rifle fire, under a hail of grenades and aerial bombs and, after hideous losses, they still advanced with unshaken nerve.

On June 6, 1918, the company assigned to take Bouresches was wiped out as it crossed the open fields to the town. Then the 96th Company, U.S.M.C., launched itself forward to the attack, over the same open ground swept by a terrific fire. Two hundred and fifty started, twenty reached the town; half of that twenty were wounded. Though Bouresches was held by over three hundred Germans, that remnant got its foothold and started to "clean up" the town. That night another company, also mostly young college men, reinforced them, killed or drove out the last enemy and hurriedly prepared for the inevitable counter attack. A scant two hundred of these indomitable youngsters stood the preparatory airplane bombing and artillery bombardment and crushed the charging columns of hundreds of Prussian shock troops which at times swept up to within thirty feet of the walls.

Add to such achievements as this the fact that the colleges supplied hundreds of trained specialists—doctors, paymasters, engineers—to the staff corps of the Navy; as well as line officers to handle patrol boats, aeroplanes, to do deck duty on the larger vessels, to manufacture and lay thousands of mines; in short, to be cogs in the Navy's wonderful machine that continued to function in spite of untold difficulties, and one will agree with General Catlin that though the American colleges doubtless thought they were turning high school boys into scholars they were unconsciously training the finest kind of fighting men.

Renew the Old Faith

WHEN WE WERE at the age of Mother Goose rhymes one jingle in particular was perplexing:

> "The beggars are come to town,
> "Some in rags, and some in tags,
> "And some in velvet gowns."

It was puzzling that beggars should come dressed in velvet gowns. But they do. The beggar does not always ply his trade crouching upon the curb. Before we have been long matriculated in the University of Experience we become used to meeting the beggar in the coach who can skilfully and successfully extricate coins from our purse even as we trudge the road. It is easier to recognize the ragged beggar. His brother in silk is usually not known until he has passed by. That is the chief difference.

And so it is, we are learning, with Bolshevists. Our first conception of the brotherhood was of a ragged band of aliens, an unkempt, uninformed lot of brutes following the leadership of a few down and outs who might pretend to membership in the "intelligencia" but who had, with half learning, no balance whatever and were not much to be considered save with the rags and tags of an unhealthy Eastern European civilization.

But such impression of the Bolshevist is not entirely correct. Like the beggar, he is to be met with now and again in a silken gown. It is true that usually the share of this world's goods enjoyed by the Bolshevist in silk inclines him to speak softly, if at all, upon the subject of class injustice, upon the necessity of wiping out property rights, including his own. But what emphasis his statements may lose by reason of his individual fortunes is more than compensated by the fervor with which he comes to the defense of the Lenine-Trotsky faith of internationalism.

What difference whether our Americanism be first sterilized at home or abroad, whether we lose the institutions of the Fathers by class Bolshevism here or by mawkish internationalism. With either we would lose our impulse for true Americanism. We enjoy the blessings of our national life not only because of the rich resources with which our country is endowed but because we have been reared true to the doctrine of Washington and Lincoln. Unless we feel our Americanism deeply we cannot preserve the liberty of which eternal vigilance must always be the price. Any substitution of international for national consciousness will make an American poorer, because it will make him less an American, and he is largely the man he is because he is an American.

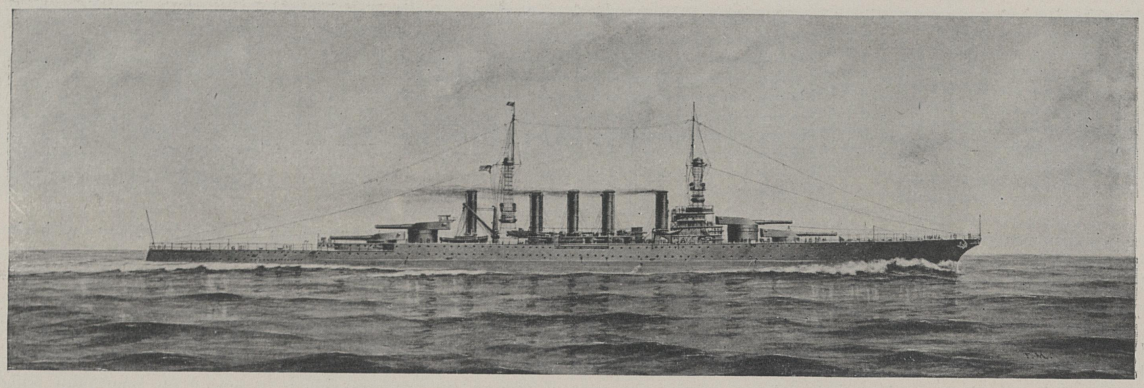
Renew the old faith. Never was there a time when the need was greater for the utterance of the old, fundamental, twice-told truths of the soundness and saneness of our political institutions. It is not with the problem of coöperation between nations for the prevention of war that we are concerned. A League of Nations might well promote the peace of the world without injury to our nationalism. But we propose always to hold aloft the banner of thoroughgoing Americanism wherever we see that under attack, whether by the mob in rags or tags, or by the insidious propagandists in velvet gowns.

DO YOU BELIEVE in democracy? Do you believe that its chief characteristic is its requirement that every citizen shall study public questions and, guided by his own experience, thought, patriotism and conscience, shall take firm stand for the side he believes right, and talk, teach and vote for it?

Have *you* thought for yourself how far you are in favor of a League of Nations; have you determined how far you are willing to yield some part of our national sovereignty; how far you are willing to go in agreeing to obey somebody or power external to the United States; have you calculated the undoubted advantages and the undoubted disadvantages that will follow?

If your mind is thus made up, be a real democrat and preach what you believe to be right.

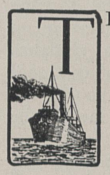
THE FOLLY and the danger of depending upon our competitors for the means of foreign markets need not be stated. The humiliation of witnessing the disappearance of our flag from the high seas without one effort to restore it to its former proud position cannot be expressed. Surely no subject is of greater importance than the enlargement of our foreign markets, and nothing will contribute more to that end than the command of ample facilities for reaching them.—WILIAM WINDOM.



The battle cruisers of the 1916 programme, enormous ships of 35 knots speed and with a battery of heavy guns but without the armor protection of the battleship

The Coming Ship-of-the-line

Will she be a composite of the battleship and battle cruiser, or will the two types remain distinct?



THE PRESS has given considerable publicity to the development of a controversy between naval experts over the type of capital ship, or big gun naval vessel, that should constitute the backbone of naval power henceforth. Admiral Mayo, Vice Admiral Sims, and many other eminent naval officers are said to favor the construction of a composite dreadnought and battle cruiser of great size, while many members of the General Board of the Navy would continue with the building of dreadnoughts and battle cruisers as distinct types of vessels, intended for distinct and different uses in naval warfare.

This controversy is not confined to the United States. In Great Britain, Under Secretary of the Admiralty McNamara has informed Parliament that no dreadnoughts are now under construction and that of four battle cruisers on the ways on December 31st, work has been abandoned on three. It is not expected that any dreadnought will be begun in Great Britain this year. While this suspension of naval building in Great Britain may be, to a great extent, caused by England's anxiety to see the League of Nations question settled before proceeding further with armaments, it is also true that if, and when, naval construction is resumed by Great Britain the same questions that are perplexing the minds of American naval experts as to changes in ship design to be made as a result of the lessons of the war, will have to be fought out and settled.

While the press reports of this controversy have indicated its extent, they have not reduced the issue to fundamentals in such manner as to afford the layman an understanding of it so that he may follow it intelligently and realize that it is something more than a wrangle between experts over technical details. Reduced to the simplest possible terms, naval power, ever since the introduction of ordnance afloat, has been measured by the gun, the ship being merely a means to sustain and convey the gun, and this controversy is simply one over ways and means to get the greatest gun power in the most favorable position for the least amount of money. Money, of course, is the controlling factor. Given a greater amount of money, it would be no trick at all to outbuild navies on which less money may be spent. But the problem before our Navy is, with an equal amount of money, so to spend it that it will produce a superior Navy or, given a greater amount of money, to expend it so as to make the measure of naval superiority as great as possible. And we must think of the fleet and not the ship, of the line of battle and not the isolated cruiser.

The Unit of Naval Power

The fighting power of a naval vessel is composed of three factors, guns, speed and protective armor. And every vessel built is a compromise between the demands of these three items, for her weight cannot be increased indefinitely but must be divided between guns, machinery and armor. Given two vessels of the same size or tonnage, if the one excels in the number and power of her guns she must yield to the other in speed or protection. If you give one bigger and more powerful—and consequently heavier—engines to attain greater speed you must sacrifice either her guns or her armor or both. The problem of naval constructors is to obtain the combination of these three factors of fighting strength that will give the ship *and the fleet* the maximum power for the expenditure involved. This is usually attempted by building vessels of different types to complement each other. To one type is given speed, at the expense of guns and armor, to another guns and armor with slower speed. As the size or tonnage of a vessel is increased, all three of these factors of strength for battle can be increased. But this increased size involves increased expenditure and hence fewer of the big ships may be had. There is a point at which this concentration of the three factors of fighting power in a single ship must stop. With too few big ships the possibility of any division of fleet strength is impaired and if it becomes necessary to hold two or more strategic points or to patrol two or more coasts, it might be better to have smaller vessels and more of them. Again, with too great concentration of strength in too few ships, the risk to the fleet of losing the individual ship becomes too great. It is like putting too many eggs in one basket.

In general, naval opinion has held that the gun is of greater importance than speed or armor which, as Mahan says, subserve the gun by getting it into position to fire and by protecting it that it may continue to fire. Thus the all-big-gun ship has become the backbone of the fleet. Other vessels, with other attributes, are built to serve the big gun ship. The speed of the scout cruiser is used to scout and screen for the big gun ship and thus increase its knowledge of the enemy's movements and deny such knowledge to the enemy. Both functions, of course,

amount only to making the battleship's guns more effective by directing them to the proper place for their use. Fundamentally, both scout and destroyer are merely the battleship's handmaidens. The strength of navies is measured in terms of capital ships.

But with the all-big-gun ship has also arisen this question of dividing the factors of fighting strength, of giving her sufficient speed and armor to make her guns effective. Her guns were limited not only by the distance at which their fire could be counted upon to hit and destroy the enemy, but also by the necessity of giving the ship sufficient speed to maneuver against other all-big-gun ships. Study of this problem finally led to the building of two types of capital ships, in both of which gun power was emphasized. In one type speed was combined with gun power and protective armor sacrificed, and in the other gun power was combined with armor with relatively less speed. The fast big gun ship is the battle cruiser, the other the battleship. In this way it was sought to obtain a maximum of gun power combined with both protective strength and speed but in different vessels which would complement each other. For instance, the battleships with protective armor would "lie in the line of battle," take the central position where the pounding of the enemy's fire was heaviest, while the battle cruisers operated on the flanks where speed and ability to outmaneuver the enemy was most necessary.

The Composite Ship Proposal

Now it is proposed by Admiral Mayo and those who side with him, to build a new type of vessel which will have the speed of the battle cruiser as well as the gun power and the protective armor of the battleship. Obviously such a ship would have to have a greater size or displacement than either the battle cruiser or battleship and would therefore cost far more than either of them. With the same amount of money for naval increase, therefore, fewer of these composite ships could be built but each ship would have, individually, greater fighting power. In the aggregate, the total of battle cruisers and battleships that could be built for the same amount of money as could be obtained of composite ships, would probably have a greater gun power. In other words, gun power being the measure of naval strength, would you get less gun power out of $200,000,000 worth of composite ships than you would out of the same expenditure divided between battleships and battle cruisers? Would increased speed for the fleet and increased fighting power per ship be gained, with a consequent decrease in the total gun power of the fleet?

Of the basic principles of such developments in naval design, the late Admiral Mahan said:

"Force first, mobility second; for the force does not exist for the mobility, but the mobility for the force, which it subserves. . . . If, to increase speed, you reduce fighting power, you increase something which you cannot certainly hold, at the expense of something at once much more important and more constant —less liable to impairment."

Thus Admiral Mahan would clearly oppose a reduction in the gun power of the fleet simply to get increased speed. But the proponents of the composite ships say that even if gun power per fleet were reduced, gun power per vessel would not be, for by increasing the size of each vessel she would be given equal gun power, equal protective armor and more speed than the present dreadnought. But Admiral Mahan also comments upon this. He says:

"An escape from this dilemma is sought by the advocates of very high speed for battleships by increasing the size of the individual ship. If this increase in size is accompanied by increase of speed, but not proportionately of fighting power, the measure, in the opinion of the writer, stands self-condemned. But, granting that force gains equally with speed, there is a further objection. A big ship cannot be divided into two; or more pertinently, eight ships cannot be made into ten when you want two bodies of five each."

It is clear, therefore, that in his day Admiral Mahan favored hitting power and staying power as against speed and opposed the policy of building too few too big ships possessing all three qualities on the ground that it prevented proper disposition or division of power. Though the battleships of his day—the pre-dreadnought era—was a 12,000 ton 18-knot ship, does not the principle remain sound to-day?

What are the considerations which cause Admiral Mayo, Admiral Sims and others to run counter to the principles laid down by Admiral Mahan, whose principles rarely run counter to sound naval policy? We cannot know all that Admiral Mayo or Admiral Sims have learned in the war to induce them to favor this change in design.

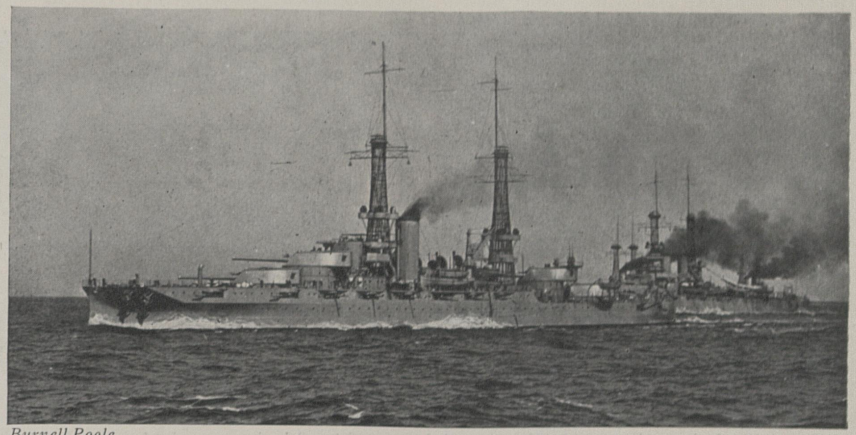
The Battle of Jutland

We can, however, make mention of one thing. It is said that in the Battle of Jutland, the chief naval conflict from which these lessons presumably are to be drawn, the number of British ships was so great and the line of battle so long that it was extremely doubtful whether Jellicoe could maneuver his forces with full effectiveness in the relatively restricted battle area. Some tell us that the British Grand Fleet, when in "line ahead," took up seventy miles of sea! In other words, the development of naval strength has been brought to a point, it is thought by some, where fleets are so large as to be unmanageable in the waters where naval battles are most likely to be fought.

If this be true, it might well prove wise to reduce the number of vessels and add to the size of the individual vessel, thus shortening the line of battle. If gun power is at a maximum, for there is a limit to range, weight of projectile and the life of big naval guns, then such increased size of the individual vessel might be wisely devoted to more powerful machinery and increased speed.

Those, in this controversy, who still hold out for gun power and would therefore stick to battleships and battle cruisers as providing the maximum gun power on the basis of cost, are men who must be listened to with great deference.

But as the discussion proceeds, the layman will do well to bear in mind that it is the gun which measures naval power, and not speed, and that when naval experts reduce gun power, either of the individual vessel or of the fleet as a whole, they must bring forth convincing arguments of the advantages gained at the expense of strength in guns.



Burnell Poole

The battleship carries heavy guns and thick armor but her speed is moderate compared to that of the battle cruiser



Louis Margail, killed July 11, 1916, left this boy and girl in great need



Marie Rose, Vincent and Jean Mezou, god children of Sea Power



This boy's father Seaman Jean Baillon, is missing



Gunner Bozec, whose death occurred in 1916 on the Suffren, left this little family

French Sailors' Orphans



THUS FAR the Navy League is able to report the adoption of 95 orphans of French seamen lost in the war. The names of more than 100 other orphans are on file with the League, all of whose cases have been investigated by the Minister of Marine of the French government and certified to the Paris Section of the Navy League.

Once more the League desires to call the attention of its members to the fact that these orphans for whom it is asking its members to serve as war godfathers and godmothers are quite apart from the flow of generous contributions sent to France from America. The work of reconstruction naturally concentrates in those areas despoiled by the German armies. Unquestionably the people of those districts are in most serious need of help. And the orphans of French soldiers are, of course, far more numerous than those of French sailors. Yet here is a worthy work for us to do. Most of the fathers of these children gave their lives in service with the ships that constituted the "fringes of the fleet," the little patrol boats and trawlers that rendered civilization such wonderful service by their indomitable struggle against the ravages of the submarine.

In this issue of SEA POWER are published the photographs of some of the orphans of these French seamen whom the League asks its members to adopt. In every instance an investigation of the case is made by the French authorities and official certification made to the Navy League by the French Government. No part of the funds received for this purpose is retained to pay expenses of collection or any other costs whatsoever. All is given to the French authorities for direct distribution to the orphans themselves. The French Government gives what it can, but the sum asked for each orphan by the Navy League ($36.50 per year) spells the difference between bare necessities provided by the French Government and the chance for happiness and a better life and education for the French children. It is a work that must inevitably strengthen the France of the future—certainly it is a reconstruction effort of the highest merit.

Acknowledgment is made of contributions from the following list of League members:

Mrs. W. Carleton Barnes, South Weymouth, Mass. 1
Miss Elizabeth Keferstein, Stoneleigh Court, Washington, D. C. 1
Miss B. V. Smith, Early Birds of America, Providence, R. I. 1
Lieut. ——, U.S.N., U.S.S. —— 1
Elmer E. McKown, 217 South Home Ave., Avalon, Pa. 1
Agnes E. Lee, Fort Pierre, S. Dakota .. 1
Louise A. Sheets, 480 N. Broadway, Yonkers, N. Y. 1
E. B. Ayres, 1108 Melrose Ave., Oaklane P. O., Pa. 1
Margaret Price, Black River Falls, Wisconsin 1
Mrs. Moncure Robinson, 1519 Walnut Street, Phila., Pa. 1
Mr. and Mrs. H. I. Ross, Ontario, California 1
Horace A. Crary, 505 Market St., Warren, Pa. 1



This girl's father, Ernest Texier, was lost on a patrol boat in 1916



The son of Jean Cubie, 3d class seaman, killed August 6, 1917



This baby, born on Bunker Hill Day, 1917, has been adopted by the St. Louis Section

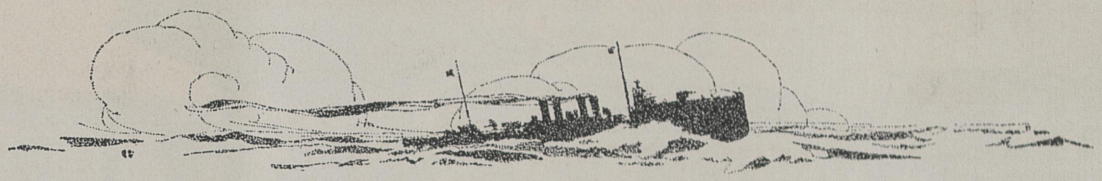


Andre Houard lost his father, an electrician, February 10, 1918

Mrs. Edward C. Cook, York Village, Me. 1
John Hopkins, c/o Duckworth Co., Savannah, Ga. 4
George D. McCreary, Jr., Silver City, N. M. 2
Mrs. W. G. Roberts, 423 W. Main Street, Hudson, Mich. 1
Mrs. S. F. Breckenridge, Yonkers, N. Y. 1
Mrs. J. V. Jenkins, Gainsville, Texas 6
Mrs. Anna M. Worth, Coatesville, Pa. 1

The Sections adopting orphans are:

Washington Headquarters Office....19
Philadelphia Section (Mrs. Ernest Law, Chairman)..... 6
St. Louis Section (Mrs. William A. Stickney) 3
Yonkers Section (Albert Bunker)... 2
U. S. S. ——.....13
Yonkers Section..... 3
Burlington, Vermont, Section..... 5
Abington, Conn., Section (Mrs. T. Morris Murray).....10
Darby Section (Miss E. Horn)..... 1
Phila. Section (Girl Employees of Mechling Bros. Mfg. Co., Camden, N. J.)..... 1
Troy Section, Troy, New York..... 1
Yonkers Section (Mrs. Earle Prime, Jr.) 1
Troy Section (Cluett Peabody Unit).. 1
Chicago Section (Miss Anna A. Streckewald) 1
Sea Power Publishing Co., Washington Office..... 3



The Civilian Merchant Marine

Texas Rotarians pass resolutions concerning it.

AT a convention of Rotary Clubs held recently in San Antonio, Texas, the following resolutions were passed:

One resolution reads: "Certainly the least talked about, while at the same time most important contribution toward making the world safe for Democracy, was furnished by the American Mercantile Marine. Without the glamour and sentiment that inevitably attached itself to the Naval Service, these men, officers, engineers, seamen and firemen, did their full duty as loyal-hearted and patriotic Americans, carrying, as they did, first our contribution to the feeding of our Allied brethren in Europe; then, the supplies, ammunition and other things incident to our own expeditionary forces, to say nothing of the near two million men of which these forces were composed.

"Theirs was the task to force their craft at topmost speed through stormy waters and mine and submarine infested depths, and although many of them were subjected to gunfire, to abandonment at sea, or drowned intentionally by the enemy in the hope of destroying their morale, yet never a man flinched, nor was there ever a ship delayed for want of a crew.

"While full, due and official acknowledgment has been made of the services of our Army, Navy, and every other form of National effort, and while all other nations have acclaimed the bravery and service of their Mercantile Marine, never, up to this moment, have we, as Nation or otherwise, paid any tribute to these plain, modest and unassuming heroes. This being the case, and that some action may be taken, even at this late date, be it

"RESOLVED: That we, Rotarians of the twenty-one Clubs forming the Eighteenth District of the State of Texas, and of International Rotary, in convention assembled at the City of San Antonio, comprising, as we do, representatives of the business and professional men of this wide area, whose watchword is 'Service,' do hereby pay hearty tribute to the service so well and nobly performed by these our brothers whose business takes them out upon the great deep; and be it further

"RESOLVED: That copies of this Resolution be sent to the headquarters of the Navy League and International Rotary, and due publicity given to them in the press."

The second resolution is as follows:

"In order that we might do our whole share in winning the world's war, it was necessary to create a very large Mercantile Marine. When the Armistice was signed, we had in operation over five million tons of shipping, which tonnage has been added to so rapidly that in the course of a year or so we shall have probably three times this amount.

"Having in view the fact that we shall have, as a Nation, to operate this tonnage, we should have some well defined plan that would take care of all its different phases, such as the management, operation, manning and all such matters as would pertain to the relationship between charterer and owner, trader and banker, officer and seaman, and such encouragement as might be necessary to enable us to compete as a Nation with the other maritime Nations of the world. For two or three generations we have been, even down to our coasts, what might be termed an inland-minded country, from the fact that our export and import commerce has been carried in foreign bottoms;

"WHEREAS, the above has been the condition up to now, and in view of the fact that in other maritime countries the mercantile marines and fishing fleets have furnished when needed the best part of their navies, and that the best possible use might be made of the opportunity that we now have to put this branch of the country's service on a sound, systematic, commercial and constructive basis, as one of the greatest needs of the Nation is a Civilian Merchant Marine, and that American commerce should be carried by Americans, and not by aliens, as heretofore, we, the members of the Eighteenth District of Rotary Clubs and of the State of Texas, representing twenty-one cities, of business and professional men, now in convention assembled, at the City of San Antonio, Texas, do hereby

"RESOLVED: That the necessary steps be taken to provide a National Bureau or Department of Mercantile Marine and Overseas Transportation, the details to be worked out by a commission of men representing the various interests concerned who shall be best adapted to perform the functions of this service; and be it further

"RESOLVED: That this set of resolutions be sent to our various Representatives in Congress and the Senate, to the headquarters of both the Navy League and International Rotary, and copies furnished to the press."

Across the Atlantic By Air

By LIEUT. CARL H. BUTMAN, A. S. A



One horsepower and eight hundred. One of America's first Handley Pages with two Liberties was built in 90 days. To-day England has four engines installed in larger planes of this type, developing nearly twice this horsepower

IN AT LEAST five countries men are training, working, planning for participation in the greatest sporting event of all times. The thrill that is rising in the hearts of thousands in this country and in Europe over the prospect of the great transatlantic flight is, of course, in proportion to contact with the enterprise, knowledge and appreciation of the fine points of the game. The London *Daily Mail* has offered a purse of $50,000 to the first man who makes the flight and this has already been increased by generous additional prizes from other sources. There is not a doubt that the flight can be made. In the aviation world the only question being debated is who will win the flight and with which type of machine. Hundreds of aviators have volunteered to serve as pilots and the most daring birdmen of America, England, Italy, France, Sweden and, so it is said, of Germany are in the foreground, bent upon winning this prize.

Of course, the flight is not to be merely a sporting event. It will be that and more. It is not proposed by those most deeply interested in the event to have merely a single freak flight but to achieve thereby a measure of progress in the science of aeronautic navigation that will before long establish overseas air flights for commercial uses. We have, therefore, combined in this event its unequal interest as a sporting proposition, its attraction for the scientist and engineer, and a prospect for commercial gain.

According to the Aero Club of America, the prizes for this flight hold for a trip across the Atlantic from any point in the United States, Canada or Newfoundland to any point in Great Britain or Ireland within 72 hours. It may be made in either direction and the pilot may be of any nationality, provided he holds an aviator's certificate. The plane may start from either the land or the water but must pass in flight over the coast line on the opposite side of the Atlantic from that on which the flight began. A non-stop flight is not necessary; the plane may stop for fuel or repairs, but only one plane may be used in a single attempt to span the ocean. The race is open to land planes, seaplanes, and lighter-than-air craft of the dirigible type.



Central News Photo Service

Clifford B. Pordger, a British experimental pilot, who flew a "Super" Handley Page plane from Ireland to England recently with mail and passengers, may be an aspirant to the trans-Atlantic flight title

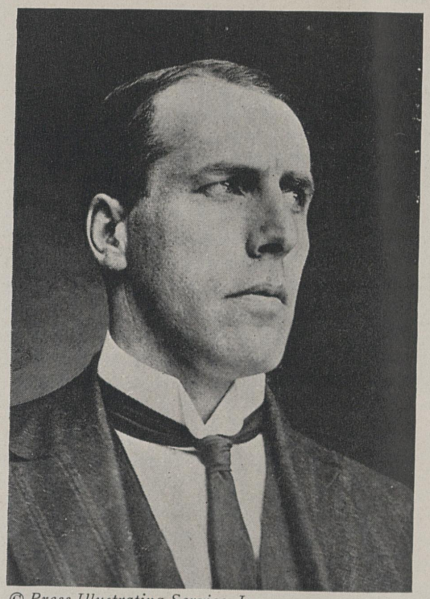
Meteorological investigations show that the most favorable winds in the northern Atlantic arise in the west, especially in the early summer, and assist materially in making a trip from America toward Europe. This fact is naturally influencing prospective transatlantic fliers, and even the Italians are planning, when the new Caproni is completed, to attempt the flight from this side of the ocean. As far as prevailing winds are concerned, America has a natural advantage as a starting point and American aviators entering the race are thought to gain a slight advantage thereby.

The actual distance to be traversed is, of course, as far one way as another, but varies according to the route selected and the number of stops. Several practicable courses present themselves. A recent study of this subject by prominent engineers developed three routes: the first from Newfoundland to Lisbon, via the Azores, which is the southern route, a distance of approximately 2,500 miles, the longest leg being 1,200 miles. The second is the all-British route from Newfoundland to Valentia Island, a little

over 2,000 miles with no land stations, and thence to London, 250 miles farther. The third is the northern route from Newfoundland to Iceland and thence to Ireland, some 2,500 miles, the longest leg being just under 1,000 miles.

Of all three routes, the northern seems to the layman the most practicable, as it has the shortest jumps, but it is unfavorable except for a few days in summer and somewhat dangerous because of meteorological conditions. Perhaps the southern route presents the best opportunities, due to its maximum leg of only 1,200 miles. South America has the best route, from the farthest eastern point of that continent to Africa, about 1,400 miles, and it is understood that this course is being carefully studied.

An analysis of the three routes suggests that stops en route will be necessary for refueling between land stations, and this brings up the question of the type of



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Colonel Porte, of the British Naval Air Forces, who planned to fly Glenn Curtiss' "America" over the Atlantic before the war

craft to be used. A land machine could not land on the water with any hope of again taking the air, without special floats which would add weight and resistance and neutralize the advantages of this type of machine, speed and lack of bulk. It must not be supposed that an attempt with a land machine will be made without regard for the safety of the fliers; they will be supplied with non-sinkable suits or life belts, and it is probable that all land machines will be so constructed that either the wings will act as safety floats or that the gas tanks can be emptied and converted into floats sufficient to sustain the machine on the water. Another plan is to carry water-proof air bags and tanks of compressed air for converting them into floats. These devices would not permit the plane to "take off" from the water again, however, but would merely save the machine, with the pilots and passengers. Leaving out of the discussion the lighter-than-air craft, dirigibles, for the moment we will consider the over-water and then the over-land types of heavier-than-air craft.

The current press is printing many articles concerning the prospect of American flying boats, particularly the Navy's new "T" boat being completed at the Naval Aircraft Factory in Philadelphia. This giant craft supersedes the Curtiss NC-1, which carried fifty men aloft in November. The NC-1 measures 126 feet across the wings and is believed capable of crossing the Atlantic. The new ship, Model "T" is a giant F-5-L, incorporating its graceful stream lines and thus attaining great advantages over the NC-1 which had a whale-like body. The wing span of the "T" ship is 250 feet; the largest aircraft in the world. It is 124 feet wider across than the biplane wings of its smaller counterpart the F-5-L. Five Liberty engines, of about 330 horse-power each, will drive this craft at an estimated speed of over 100 miles per hour. Three of America's great war engines on the NC-1 developed a speed of 80 miles per hour and broke the world's record for number of passengers carried. What to expect of this "T" boat we can best assume by studying its prototype, the F-5-L, which was driven by two Liberties at a speed of 87 miles per hour.

Development in flying boats has been so rapid that the F-5-L was the greatest water- and airplane in existence only three months ago; then came the NC-1, and now the greater "T" plane. The F-5-L is regarded as the ideal seaplane. This boat was originally a British design, but was Americanized during the war and equipped with two Liberty engines. Its upper wing stretch is 103 feet, three feet wider than the Standard Handley Page, and yet this extreme total width is but two-fifths of that of the new "T" boat. Special tests with the F-5-L, equipped with geared Liberties, developed over 100 miles per hour. A maximum fuel load, fully equipped for war patrol, is sufficient with this machine for an 11 hour flight at an economical speed. If a speed of 80 miles per hour is maintained for 11 hours, this machine would fly, with one fuel loading, practically 880 miles. The theoretical maximum distance for a single flight by a seaplane has been calculated as 1,200 miles. Therefore it could not cross the ocean; it would have to come down and replenish its fuel.

An engineer of the Curtiss Company has given out an interesting technical statement, using the present design of the F-5-L as a basis. His computations are too intricate to attempt to explain to the



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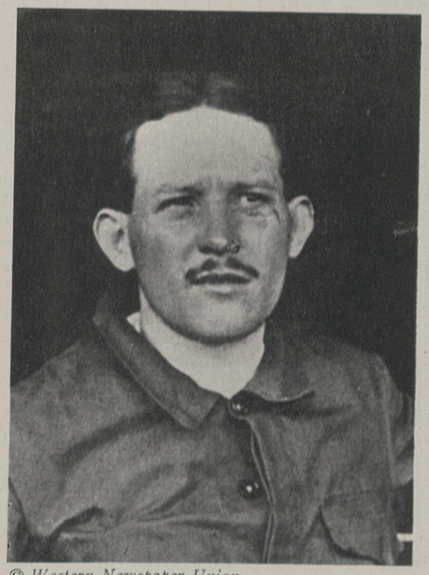
Commander John H. Towers, U. S. Naval Aviator, who is in chare of the Navy's operations in connection with a trans-Atlantic flight. He was one of the first naval pilots to qualify, having studied under Glenn Curtiss

layman and, as the expert can figure them out for himself, the writer will merely attempt to touch upon his conclusions. From Newfoundland to Ireland he estimates as 2,000 miles in round numbers, but the F-5-L is not supplied



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Jules Vedrines, French aviator who recently astounded the world by calmly lighting on the top of a building in Paris. During the war he was a pilot of the French Intelligence Service, in which he is said to have accomplished many hazardous missions behind the German lines



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A group of forty people carried on an aerial trip over London in a Handley Page by C. B. Pordger, who sits in the center of the second row. Mr. Handley Page, inventor of this type of plane, sits next on the right

with sufficient fuel capacity to make such a non-stop trip. A total gas capacity equal to half of its total gross load would be required, but a flying boat cannot ordinarily carry more than a third of its weight in fuel. Calculating upon the ideal machine, this engineer points out that it should be nearly twice as large as the F-5-L, equipped with four similar motors, carry 3,250 gallons of gas, and develop about 95 miles per hour at maximum speed. A flight of 2,000 miles might then be made within 24 hours, allowing about 300 miles for deviation from the course. Other computations indicate that by disregarding maximum speed, this theoretical airboat, at an average minimum speed of 75 miles per hour, could cross the Atlantic in 30 hours with approximately 50 per cent of the gas necessary for the same feat at maximum speed.

This forecast of requirements, made by an engineer before the general specifications of the "T" boat were announced, is strikingly in accord with the official announcement to the effect that five Liberty engines were to be used to power the "T" ship, which would carry sufficient gas and oil for a flight of 2,000 miles. It is obvious that a flight cannot be undertaken with any hope of success unless the mechanical efficiency of the ship is established on the above basis, with leeway sufficient to overcome unforseen weather conditions or accidents. Also, the pilots and navigators will then have the necessary confidence to insure their own maximum efficiency. As a naval aviator recently said of the NC-1, "with good weather and luck and maximum efficiency, we have a dozen pilots who can make the trip." So with the "T" boat, and something to spare.

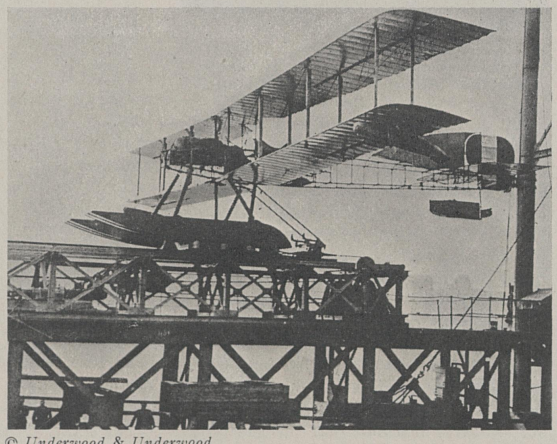
Naturally, the flying boat operations in this country will be under the control of the Navy Department, as private enterprise in this direction seems never to have revived since the great Curtiss-Porte ship *America,* built for a transatlantic flight in 1914, was sent to England for military uses. The Navy Department promises a trial by the NC-1 or a ship of that type, announcing at the same time that NC-2 was completed, and that NC-3 and 4 were under construction at Garden City. Apparently the new "T" type is better than the NC-3 or 4, but regardless of the exact name, the Navy is certainly leading in America in up-to-date flight preparations.

Commander John H. Towers, the naval pilot designated by the Navy Department to attempt the Atlantic flight, is one of the most efficient and capable aviators of the Navy. His training began in the first school established by Glenn Curtiss, where he took part in the earliest aeronautical developments undertaken by the Navy. He is assisted by Major Smith, a Marine Corps aviator who has had considerable experience in sea flying, besides several other naval pilots and engineers. No one of these men will talk, as the newspaper men put it, but from what has been learned they will have everything that they need in the way of a vehicle when the "T" boat is launched and they seem to have an excellent chance to be the first transatlantic fliers. One should remember a great advantage which the naval fliers will have over those in land planes; the fact that they can, in all probability, alight on the water and get away again, being never in any danger from drowning. Seaplanes, according to Commander Towers, have sustained themselves on the water for 24 hours, after a forced landing; in one instance while a 50-mile gale was blowing, the seas running high. Of course, it would be difficult, even if possible, to take the air again in such weather, but they could wait in comparative safety.

One great advantage possessed by the Navy over any operations planned by the Army, or an operator of a land machine, is the protecting function which might be exercised by the naval fleet. While no ship floats which could keep pace with a modern airplane, ships might be stationed 300 to 500 miles apart on the course, or fast torpedo boats could patrol the route to be followed, keeping in radio communication and standing by to save the fliers in case of a wreck or to supply gas and oil if a stop were made. This is not, however, an economical scheme, and would merely serve for the initial trip.

The Navy may have other ships or plans up its sleeve. According to the rapidity of recent developments anything is possible; even the "T" boat may be surpassed, in design at least.

Going now to land machines, we have



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Langley was the first to attempt the launching of an airplane by a catapult. Naval seaplanes are launched by compressed air catapults from ships at sea. They light on the water and are lifted aboard by cranes

in this country three types of planes capable, with modifications, of the Atlantic trip. Essentially only one is through and through American—Glenn L. Martin's bombing biplane. The others are American adaptations of the British Handley Page and the Italian Caproni. The multi-motored machine is, of course, the only plane being considered, and it is also the Liberty engine which is scheduled to drive the successful plane whether it be a land or water craft. The Liberty motor designed for the Navy is of a lower horse power than the Army motor, thus giving the Army machines a slight advantage.

Further benefits available to the land machine are its smaller head resistance, its lighter weight, and the corresponding additional speed.

Mr. Martin is confident that his plane can fly across the Atlantic if equipped with suitable tankage for gasoline, but he is not going to make the attempt himself. The four ships which he has built have, in fact, been turned over to the Army Air Service and it is up to them to make the trip if anyone goes in a Martin bomber. As it is a land machine and a comparatively new one, Captain Roy Francis, an experienced pilot, who has charge of the Army transatlantic investigations, seems inclined to believe it is far safer, and probably saner, to make a long transcontinental trip in this country, say from New York to San Francisco, before he essays an overseas voyage.

Glenn Martin's bomber is a large biplane measuring 71 feet in span, both upper and lower wings. It is driven by two Liberty engines, and outstrips all its huge rivals as to speed, being credited with 118 miles per hour. Its present tanks are capable of carrying sufficient gasoline for six hours' flight, but additional tanks have been designed which increase its cruising time to 12 hours. Since its advent, late in the fall of 1918, the Martin has made some remarkable speedy trips of considerable distance.



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The communication officer of the F-5-L, seen through the uncovered port side of the ship at the Aeronautical Exposition. The F-5-L was a war ship, but its main features have been copied and enlarged in the giant naval "T" Boat which will have five Liberty Engines



© *Western Newspaper Union*

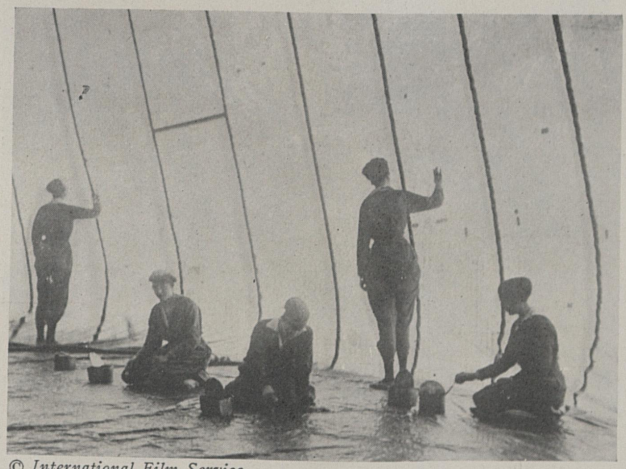
The Caudron plane, landed safely on a Paris roof by Vedrines. By this neat accomplishment, Vedrines won a prize of $5,000 and also demonstrated the possibility of roof-aerodromes. It is said that he wished to "take off" from the roof but was not permitted to do so

The best non-stop performance of the Martin was its trip from Cleveland to Washington via Baltimore; a trip of approximately 400 miles, completed in 2 hours and 58 minutes. The average speed was over 130 miles per hour. A few weeks ago one of the two Army planes was flown from Washington to Mineola in 2 hours and 30 minutes. It flew from Pittsburgh to Washington, through a terrific snowstorm, last December, a distance of approximately 175 miles, in 74 minutes. This plane has remarkably good climbing ability for a large bi-motored plane and weighs 2,600 pounds less than its contemporary, the Caproni, and 4,600 less than the Handley Page. The Martin engineers also appreciate the value of scientific aerial navigation, and are working on a radio compass for long distance travel.

Two of the Army's Martin ships have lately been in New York, one of them on exhibition at the Aeronautical Exhibition. It is believed generally in aeronautical circles that a long cross-country non-stop flight will soon be attempted, perhaps soon after the closing of the aero show. General William L. Kenly, Director of Military Aeronautics, who was at the New York show, would not make a statement on the plans of the Army Air Service. General Kenly merely said that the overseas flight by a land machine would not be made for some time. He said he believed that, with their boats, the Navy would soon be heard from.

Another efficient American built bombing-type plane is the Handley Page, modified from the British type by the Standard Aircraft Corporation and constructed in New Jersey. The first member of the American family, the *Langley*, was built in 90 days. The American type measures 110 feet in its upper wing span. It has developed, with its two Liberty engines, between 93 and 99 miles per hour. The British counterpart of this ship has many interesting records to its credit and one is now in use as a passenger carrier between London and Paris, transporting two pilots and 18 passengers each trip. One of its achievements during the war was a bombing raid on Constantinople from London, flying via Marseilles and Rome, a distance of over 2,150 miles—with stops, of course. In this country a Handley Page flew from Mineola, L. I., to Dayton, Ohio, in a little less than ten hours.

From England comes the report that a "Super" Handley Page is their latest de-



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Women workers inside a British airship gas bag. Great care is taken to make sure there are no leaks. Every seam and patch is cemented and has to pass inspection, both from within and without



The pilot's nacelle of a Caproni. Like the Handley Page and the Martin Bomber, the Caproni has a seat for its pilot and some of the passengers well forward where good observation may be had. Captain Ugo d'Annunzio, Mr. Caproni's representative in the United States, is on the left

velopment in huge air planes. According to a representative of the company at the Aeronautical Exhibition, the "Super" is flown by four Rolls Royce engines of 375 horse power each, any two of which will operate the plane. This is the plane which carried 42 passengers over London recently. The main plane measures 127 feet from tip to tip, about the spread of the Navy's F-5-L. This ship, a Handley Page engineer reports, carried 20 per cent more gasoline than is necessary to cross the Atlantic. The maximum speed is about 112 miles per hour but an efficient flying speed of 85 miles is planned for a long over-water trip. Among the achievements of the Handley Page are trips from London to Cairo and Cairo to Delhi. Its maximum flying distance is said to be over 1,500 miles.

The third American built giant of the air is the Caproni. The American Caproni is a biplane equipped with three naval Liberty motors and is credited with 103 miles per hour, a speed some 10 or 15 miles faster than the Italians developed with the Fiat or Isotta-Fraschini motors. The biplane wings stretch 79 feet. The Caproni triplane, a 1915 model, at the Aeronautical Exposition measures 103 feet across the wings and is driven by three Liberty engines. The Italians went farther than this, however; they have continued their experiments. Captain Ugo d'Annunzio, of the Italian Flying Corps, who represents Mr. Caproni in this country, says that this ship has been greatly developed for the Atlantic flight in Italy. According to Captain d'Annunzio, developments in Italy include the production of a huge triplane of 132 feet wing spread, with three Fiat 12-cylinder engines, developing 700 horse power each, a total of 2,100 horse power. Another plane will use five Fiat 12-cylinder engines of 450 horse power each, and carry gas for 16 hours of flight. A feature of the new Italian plane incorporates the cutting out of one or two engines at a time to allow for cooling and repairs en route.

The very latest Italian plans for a transatlantic flight contemplate the construction of a brand new Caproni flying ship, a tandem triplane with ten 500-horse power engines, probably Fiat, and a boat attachment. This super-giant hydro-airplane will not be ready until midsummer and will then, Captain d'Annunzio believes, be shipped to America before a trial to fly the Atlantic is made. It is estimated that this ship of the sea and air will transport as many as 100 persons at a time. Statistics credit a squadron of old Caproni triplanes with a non-stop flight of about 1,000 miles in 1916. In the war they performed wonderfully well, going over mountains of great height to accomplish their missions of death and destruction upon the Austrian bases.

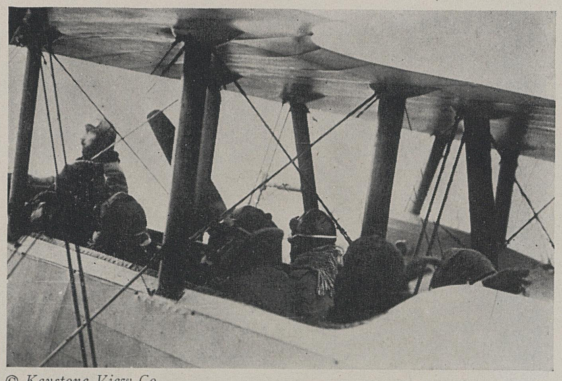
Of French entrants but little is known. In February came the news that a French plane had been designed with an adaptation by M. Rateau which will enable it to develop the tremendous speed of between 200 and 300 miles per hour, no matter at what altitude. An American citizen who has won fame in the air both with the French and the American air forces during the war recently related, with a touch of pathos, the miscarriage of his plans for an attempt to cross the Atlantic from France. He was to fly a specially equipped Samson plane and had his orders permitting the attempt, when they were suddenly recalled. His was not an impracticable plan—although he was about to attempt the flight with a smaller plane than is usually considered sea- and air-worthy for such a trip, and with only one engine—for he had his engine data and projected his flight graphically on paper, making due allowance for wind and weather. In case of a forced landing he planned to empty his gas tanks by a special device so as to use them as floats to save himself and the plane. Being in the course of certain ocean traffic he was willing to chance an early rescue.

From Germany come rumors of the entry of a super-Zeppelin.

A dispatch from England dated March 6, announces the trials of R-33, a new rigid airship in Yorkshire. It is reported as capable of about 70 miles per hour but has sufficient fuel for an 80-hour flight at 60 miles per hour. Five 12-cylinder engines of 250 horse power each drive this huge dirigible.

Since the first attempt of Walter Wellman, in 1910, the lighter-than-air ship

(*Continued on page* 278)



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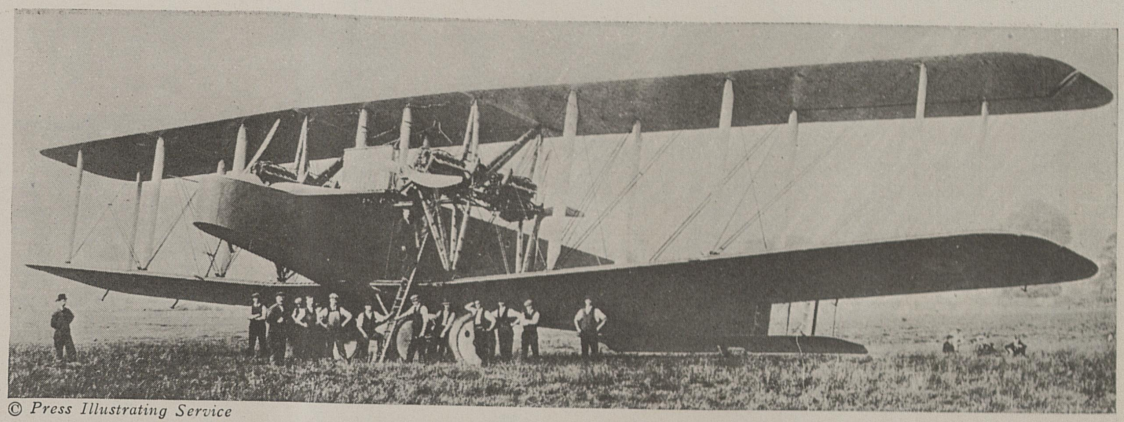
Aerobus between Paris and London. Graham-White spoke recently of British plans which seriously contemplate aerial service capable of carrying twenty-four passengers and a crew of five men. He has been stuying to develop "speed with safety", and is confident that we shall eventually travel by air at a speed as great as 250 or 300 miles per hour



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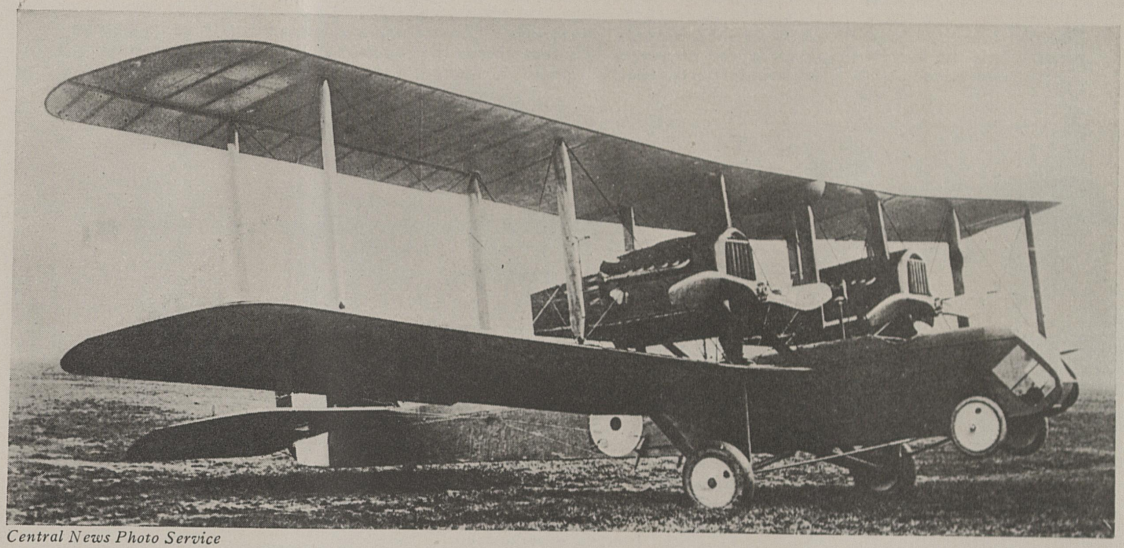
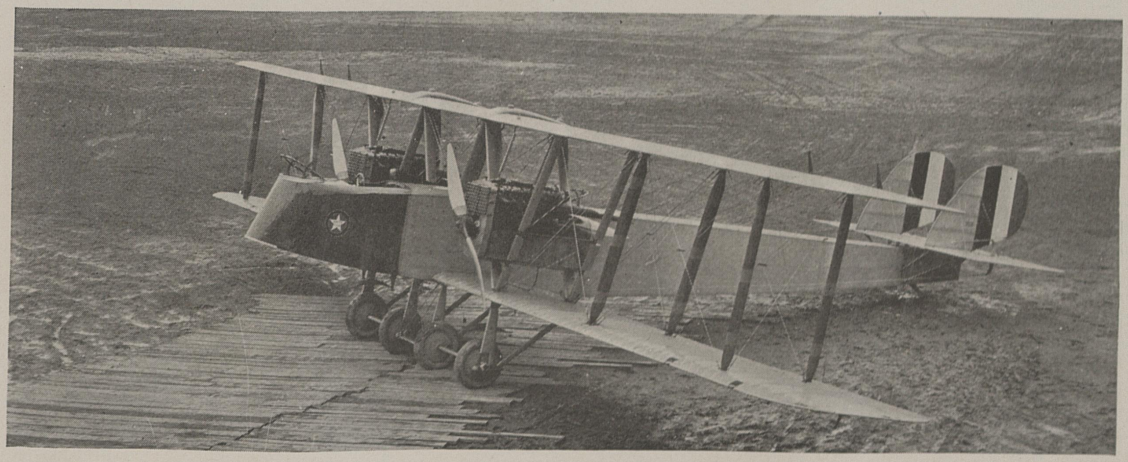
Probably Britain's best heavier-than-air vehicle for over ocean flight is the Handley Page Superdreadnought. Equipped with four Rolls Royce 375 H.P. engines, one of these planes carried 42 people aloft. It is claimed that this plane will fly with two of the engines cut out

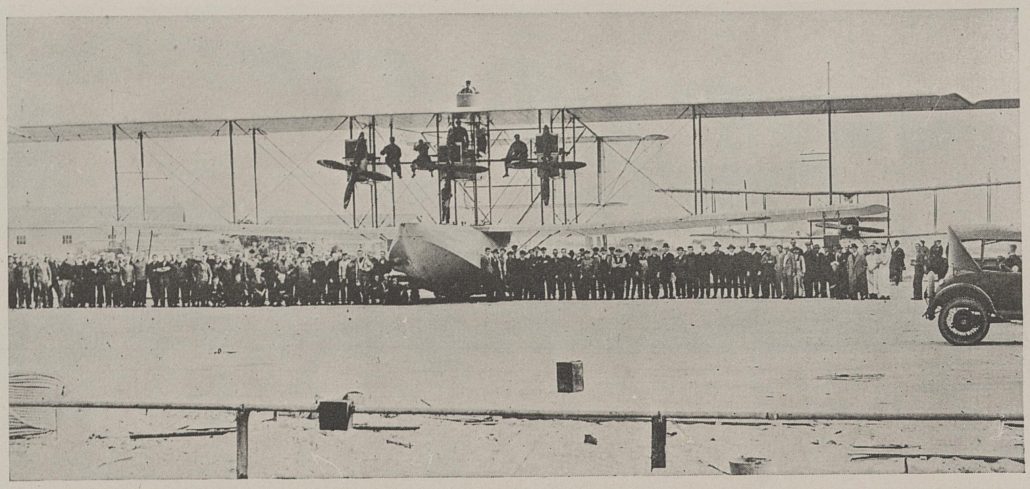


Central News Photo Service

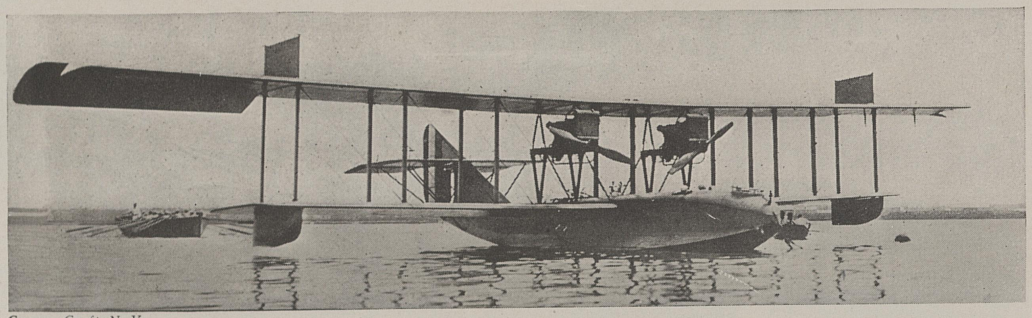
The British D.H. 10, produced by the Aircraft Manufacturing Co., of which Captain Geoffrey de Haviland is Technical Director. This plane was designed as a medium-sized bomber, but will be used in London-Paris flights. Its two engines drive it at 128 miles per hour, and enable it to do stunts



"All American"—Glenn L. Martin's Day Bomber, completed just before the Armistice was signed. Two Liberty 12's drive this plane at 118 miles per hour. The Army has recently ordered a number, which Captain Roy Francis, Air Service, is testing on long distance flights. They climb with one engine

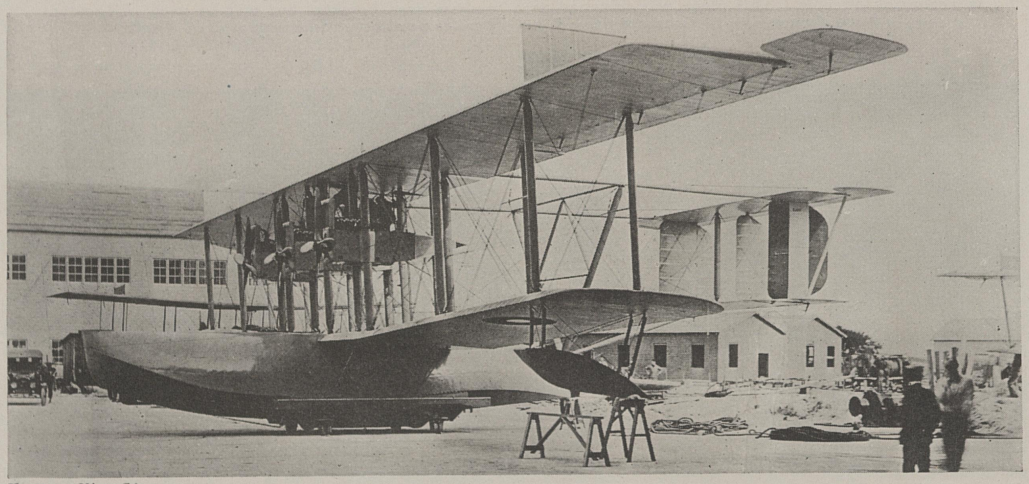


The NC 1 is the center of the Navy's Transoceanic interests. Glenn Curtiss aided materially in its development. It is the largest flying craft and measures 126 feet across the wings. A fourth Liberty engine will be added in its later counterparts, the NC 3 and 4, making a total of nearly 1,600 H.P.



Camera Craft, N. Y.

The F-5-L, patterned by the Navy after the British Felixstowe boats to fight submarines, has proven a remarkable air and sea craft. It was the largest plane at the New York Aero Show, measuring 103 feet from tip to tip. One has made 100 miles per hour. It is on the enlarged lines of this ship that the Navy "T" Boat is designed



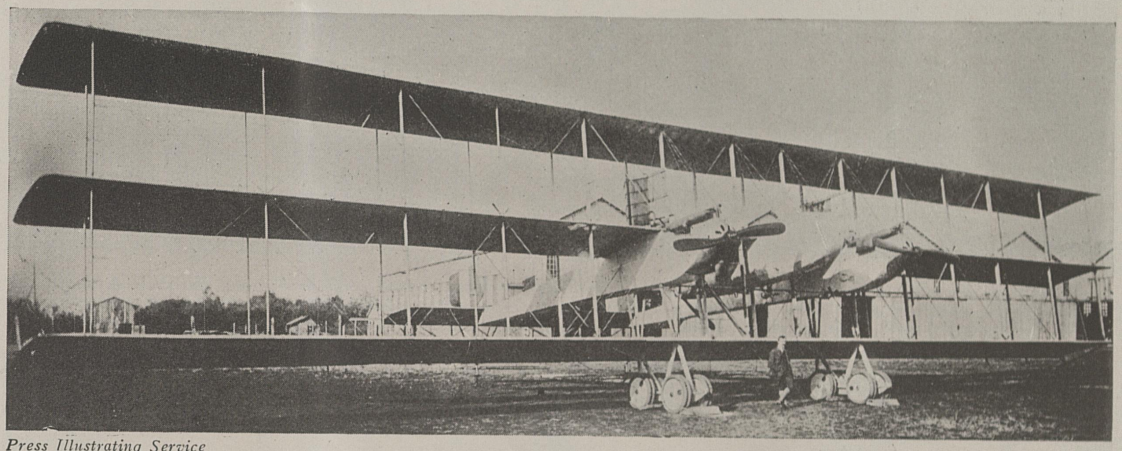
Keystone View Co.

One of the Navy's NC ships carried fifty people aloft. Four Naval aviators and engineers, Commander Towers, Lieut. Commanders Richardson and Bellenger, and Major Smith of the Marine Corps are working out plans for a transatlantic trip. The seaplanes are at Rockaway Naval Station; the aviators are in Washington, apparently awaiting orders. One or all may undertake the trip



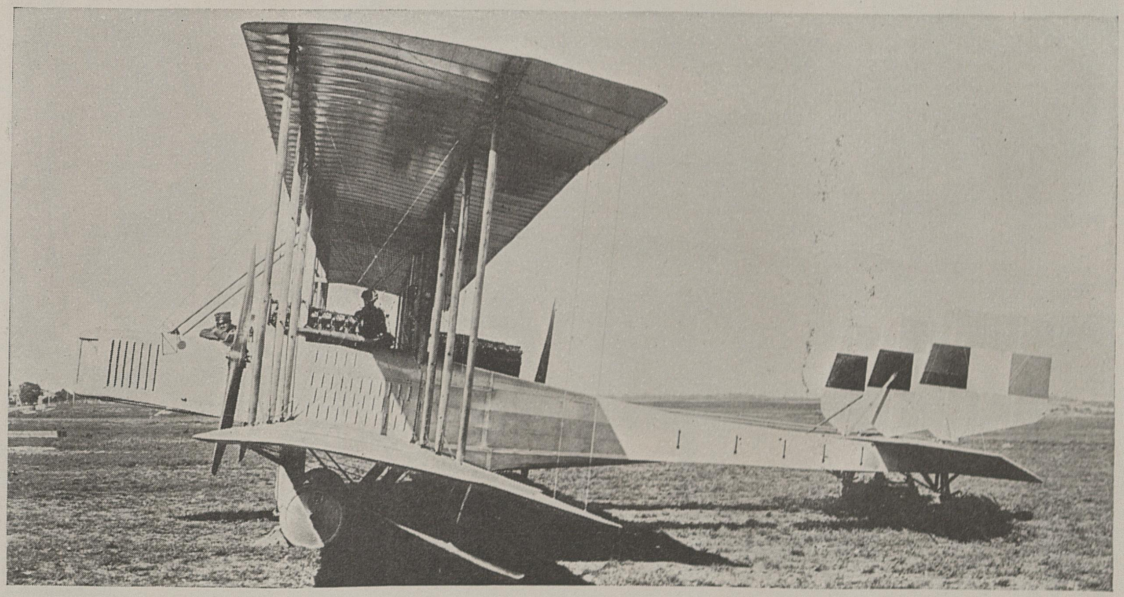
Central News, Ltd., London

The Handley Page "Ferry Bus" has carried 774 passengers from London to Paris with no mishap. Mr. Handley Page said recently, "When are we going to fly the Atlantic? Wait and see. You may take it from me that if a long flight is possible anywhere the old firm will be represented among the starters and also at the finish of the race"

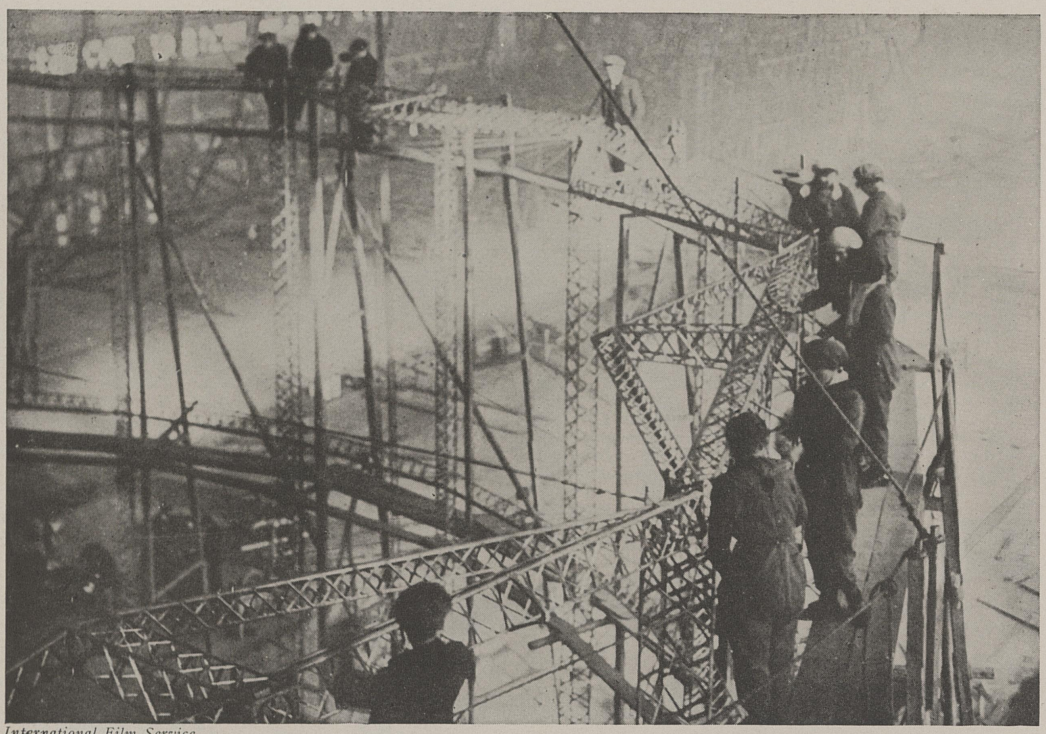


Press Illustrating Service

One of Italy's entries, a Caproni Triplane. Modified types of this war craft are being built for a trans-atlantic flight, probably from this side of the ocean to insure a favorable wind. At first, Italy's engineers produced airplanes far ahead of aviation engines, but to-day this ratio is far better

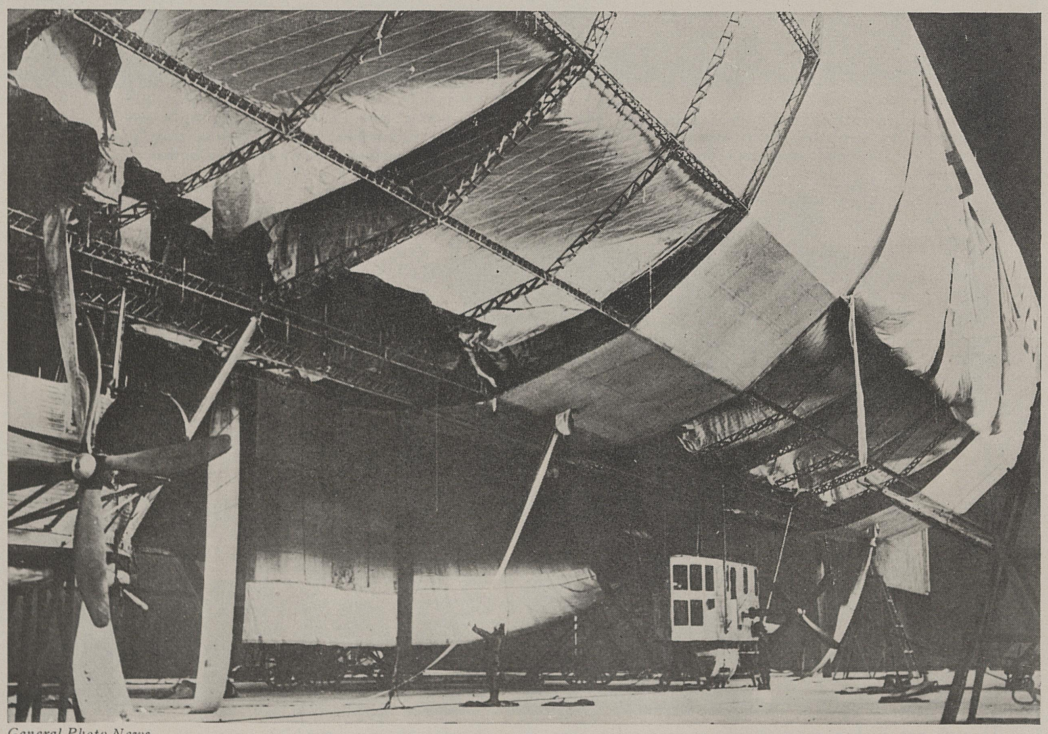


Though not such a great weight carrier as its three-planed sister, the Caproni biplane is a strong contender in long distance flights. An American-built plane of this type equipped with three Liberties developed more than 100 miles per hour. In Italy squadrons of Capronis accomplished marvelous long-distance bombard-ments



International Film Service

Britain is not relying on heavier-than-air craft alone for her future aerial commerce; giant dirigible airships are being designed and built. Women mechanics are employed to assemble the metal structure of some of the Zeppelin rigid types, most of which are capable of transatlantic trips but are comparatively slow



General Photo News

British Zeppelins equal in size to the German airships are nearing completion. Several separate gas bags are employed and six 600 H.P. engines. The latest reports indicate that Vickers, Ltd., is planning airships 800 feet in length, of 3,500 H.P. and capable of 80 hours flight with 15 tons of passengers and freight

The World Merchant Marine

By ARTHUR SWEETSER

SEA POWER'S *Special Representative at the Peace Conference*



THE STORY of world shipping during the Great War and the revolutionary changes which have been effected in its status in the early days of the armistice presents one of the most interesting phases of the whole subject of internationalism on the high seas. So little has been permitted to become known about conditions during the war and so fast have the changes crowded upon each other since the ending of hostilities that it is extremely difficult to see the subject as a whole. As a result, events of the utmost significance have passed almost unnoticed.

During the war, the world's merchant shipping formed the very cornerstone of Allied power. By means of it, even in the early days, hundreds of thousands of Canadians, Australians, Indians, Senegalese, Chinese and others were brought together from the far corners of the world to form the human line set up against the Germans. Without this increase in man-power, there cannot be the slightest doubt that the Allied cause would have suffered a crushing defeat, for the German power of concentration along interior lines gave them a preponderance of force which was well illustrated in a startling series of separate victories in Russia, Roumania, Serbia, Italy and France.

Moreover, the world's merchant shipping brought to the sorely pressed Allies all the wealth in manufactures and raw materials of the vast world outside the war area. Not only were the factories of France, England and Italy kept at work at a rate never before attempted, but a mass of ammunition, guns and other war material was brought in which it was far beyond the powers of the Entente nations themselves to duplicate. Germany's organized preparations made during long years of foreknowledge of war were thus nullified by the outside nations through the control of sea power and sea shipping.

Small wonder, then, that Germany attemped to cut this life-cord. Early in the war a double tendency set in; first the amount of tonnage available began to be cut down by German submarine operations and, second, the amount of freight and man-power to be shipped increased enormously. At once it became obvious that, with shipping decreasing and demands increasing, some radical action must be taken. As both tendencies accentuated with the increasing bitterness of the war, action was taken which brought about a situation almost unbelievable to those who had not seen its development. A series of international agreements, following close on each other's heels with the increased desperation of the situation, very soon brought about a vise-like control of ocean tonnage, which in turn made the mercantile marine the final arbiter of all overseas supplies.

The first step, of course, had been the requisitioning of the merchant ships of the various nations, a very simple and natural event, which gave each separate government control of vessels under its own flag. At the same time also came a great stimulation in shipbuilding, which was regarded as of such importance that even the most pressing man-power demands of the armies could not be allowed to interfere with it. These two steps, however, did not produce the quick results needed nor did they hold out any promise of meeting the far greater emergency which was plainly visible just over the morrow.

II

One quick increase in tonnage, however, was open, namely, neutral vessels, many of which were tied up in port through fear of German naval operations. The various allied nations went after these vessels with the utmost vigor, with such vigor indeed that they soon found themselves competing against each other—to the delight of the neutrals and to their own mutual expense. So came the first international shipping body, the Inter-Allied Chartering Committee, which was formed in order to present a united front to all the neutral shipowners who had vessels to charter. At once the rates came tumbling down and each member of the Alliance found that his own individual ends were much better served by interallied coöperation than by inter-allied competition.

The Chartering Committee proved of the utmost value. Nearly 200 vessels which might otherwise have been unavailable or available only at competitive costs were brought out into Allied service at just rates. Once secured for the common cause, they were in turn allocated among the belligerents so as to assure the fairest possible division. Undoubtedly there were cases of grievances, where a certain nation might not feel that it had secured its fair allotment, but such complaints are certain to occur even among individuals and do not reflect on the soundness of the system adopted.

Still, however, the world tonnage situation was dragging on without any very drastic action. Shipping was getting scarcer, demands were getting sharper, but on the whole the situation was met by patchwork rather than by a major operation. Each nation tightened the control over its own vessels and various methods of restrictions of imports were developed throughout all the belligerent countries, but these methods were after all but a recognition of the difficulty of the situation rather than an attempt to eradicate it.

Then came Germany's notice of unrestricted submarine warfare. Allied shipping circles were panic-stricken. The British Admiralty was so uncertain of its ability to cope with the new danger that Japanese vessels were brought over into the Mediterranean on almost any terms in order to relieve British and French and Italian ships there. Germany had made a supreme throw to win the war, even to the danger of bringing the United States in against her, and there is not the slightest doubt that for the moment the issue hung in mid-air. The war changed sharply into an attempt to destroy the Allies' merchant marine.

Forthwith a meeting of the Supreme War Council of the Allies was held in Paris. It was realized that methods of faintheartedness were useless. Action far more drastic than any yet taken was essential. Not only must all the Allied shipping be pooled under one supreme direction, with utter disregard of particular interests except as they affected the whole, but the question of imports to the various countries must cease to be national and must become international. As shipping was the most vital element in the possession of the Allies, so must its degree of control be the most complete and unselfish.

An agreement was made therefore that "America, France, Italy, and Great Britain will all tabulate and make available to each other a statement showing in detail and as nearly as possible in the same form each class of requirements for which tonnage is needed and, secondly, the tonnage available and likely to be available through new building, etc. These requirements having been classified (showing the source of supply, etc.) and having been adjusted (a) to secure a reasonably uniform standard of adequacy both as between classes of commodities and as between different countries, and (b) to bring the total within the carrying

capacity of the Allies as a whole, will form the basis on which the general allocation of tonnage will be determined."

This, of course, meant the most complete international control both over shipping and over the use to which shipping was going to be put. To carry it into effect the Allied Maritime Transport Council was formed, consisting of representatives of the four great powers. This body, though given actually only powers of recommendation to the various shipping boards in the different countries, soon became in actual fact practically supreme. The shipping of the various Allied countries went almost without exception along the lines which this international organization laid out. There was little more independence for the local national shipping boards under the new system than there had been for the individual shipowner under the old.

This, however, did not meet the question of reduction of imports. Previously each nation had taken steps to cut down all non-essential trade from overseas but had not in any sense subordinated itself to a superior interallied body. The new threat of the German unrestricted submarine warfare necessitated that step also. Obviously, with shipping pooled among the nations, no one nation would be allowed by the others to use a single unnecessary ton for the importation of non-essentials. To secure justice for all, the shipping demands of each had to be laid on the table.

III

Thus came about the Program Committees, created because of the world tonnage shortage. In each Allied nation there were over a score of such bodies, including committees on wheat, meats and fats, oils and seeds, sugar, munitions, steel, non-ferrous metals, explosives, aircraft, nitrate of soda, chemicals, wool, hair, jute, flax, hemp, leather, hides and skins, paper, cotton, timber, petroleum, and coal and coke. This list pretty well covers the essential articles of importation and assured an expert knowledge of the national needs in each line.

Each one of these committees worked out the amount of tonnage it would require to meet the needs of its nation in its special line. Thereupon the heads of similar committees of the same line in other countries came together and worked out how much space would be needed for that particular commodity for all the Allied nations. Thus the food committees, the iron, the petroleum, or the coke committees, each presented a total tonnage figure for the amount that would be required to meet the Allied needs in each special line.

Thereupon all these figures went to the Allied Maritime Transport Council. They were totalled against the total tonnage available. In every case, of course, the demands for shipping far exceeded the amount on hand. Reductions simply had to be made. As a result the estimates were sent back to the various committees with orders to reduce them. This, of course, brought protests, but protests were in vain against the facts. The Allied Maritime Council remained obdurate because it had to remain obdurate. There was no other alternative.

As a result the Program Committees cut their programs. Each one lopped off a little here and a little there till finally the grand total was considerably reduced. This would bring it somewhere within the possibilities of the tonnage available and would be accepted as a base of operations. Orders would be issued along that line, the various national shipping boards informed, and the machinery of importation put into operation. Mercantile shipping had thus become the arbiter of all the Allied economic systems.

IV

An actual case in point is interesting. On July 20, 1918, the Transport Council sent a very full letter to the Food Council, both interallied bodies, asking it to reduce its requirements to the very minimum possible before submitting them to the Transport Council. It was pointed out that, as regards the tonnage available for the European Allies, "there is still each month a serious excess of losses over building, the excess of such losses amounting in the first six months of this year to over one and one-quarter million tons dead weight" and that "each 5,000 tons of imports saved means that a further 1,000 American soldiers can be supplied, and therefore sent to France, than would otherwise be possible." The hope was therefore expressed that the Food Council, having behind it all the detailed knowledge of the last year's experience, would "find it possible to take the record of total actual consumption during this last cereal year as setting the maximum limit to the proposed program for the ensuing year."

This proposal brought a sharp rejoiner from the Food Council with the lapse of only one day. Its resolution read: "The Council wishes to state that while it agrees with the absolute necessity of minimum use of tonnage, and has in itself been created for this purpose, yet the basis of calculation on imports to France, England, and Italy, upon the foundation of last year's imports, less increase of production, simply means a repetition of the food difficulties of last year. We wish to state emphatically that the morale of the people will be most seriously endangered by such a basis of imports."

The Transport Council was obdurate, however. On August 5, it replied: "In a shipping situation rendered more difficult by the large net losses of tonnage available for European service and by the effect of the American Army program, the one substantial factor of relief was the better harvests in the three European Allied countries and in the nearest source of America. If the principles of the Food Council were accepted, this one factor of relief would operate solely to the advantage of food and would not only mean that no assistance would be given in supplying the American Army but that the imports of the European Allies other than food would in addition be reduced in correspondence with the net losses of European tonnage. This is, in the opinion of the Transport Council, a situation which it is impossible to contemplate. In the above circumstances the Transport Council will not feel justified in asking the military and munitions authorities to reduce their demands upon tonnage (with a consequent reduction of the number of American soldiers available for next year's campaign), in order that such tonnage may be allocated to food as to enable and encourage consumption upon a more generous scale than during the part year."

This was the final word. The Mercantile Marine had had its say and there was nothing to be added. It had surveyed the field, gone over the various needs, and decided against food and in favor of munitions and soldiers. There was nothing left for the Food Council to do but work out other methods of alleviation not requiring shipping. The unique phase of the situation is that one international body told another international body what it could and could not do. There was no peeking about the corner through the Italian Food expert combining with the Italian shipping expert to secure a special increase for Italy, for instance; on the other hand, the division of shipping between the nations had been worked out in the Transport Council and of food in the Food Council. If any reduction were necessary, it had to be prorated.

V

Never in the history of the world had there been an example of such complete and ironclad international control as in this control of Allied tonnage through the Allied Maritime Transport Council. Born in the fateful hours of the German submarine excesses, when the fate of the world hung in the balance, it had a power which in actual practise transcended all national or individual lines and acted as the governor of the whole overseas commerce of the Allied nations. Before the word of the Mercantile Marine everything else was silenced.

It is good to see how fully men can work together when they have to. Individual, local, even national issues, were swept aside in this impelling emergency

and sacrifices made by each for the common good of all. Italy many times received less coal than she wanted in order to allow France to have food, let us say; France likewise sacrificed something she needed because England had a greater need of raw materials for munitions; England in turn sacrificed the shipping which might have kept her very easy and comfortable in order that her allies might be able to do their share in the common task. The emergency was so great that petty needs fled before it.

With the ending of hostilities the work of the Allied Maritime Council ended as suddenly as it had begun. No longer did German submarines take their daily toll from the world's shipping; instead they sought anchorage in British harbors. Moreover, every ship afloat became more serviceable through abolition of the delays of convoy, while at the same time munition and troop movements largely ceased. Moreover, the specter of starvation which had haunted the Allies for years faded away with the assurance of open shipping lanes.

So for some weeks the Allied Maritime Transport Council found it unnecessary to take direct action towards shipping. Gradually the normal began to be resumed once more. Even the national shipping boards relaxed their control, the United States on January 19, the British and French on March 1. By terms of the second armistice renewal, 2,000,000 tons of German shipping which had been tied up in harbors for years was brought out into the service of the Allies, with another 300,000 tons of Austrian shipping. Launchings also increased as a result of the stimulated building in all countries.

Almost on the heels of the armistice, then, the world's merchant marine, which had been the life-cord of the Allied nations and the final arbiter of their economic systems, and which had been subordinated to the most rigorous international control in history, returned to its normal ways. Very much to the surprise of many, who expected this shipping direction to continue on for perhaps years, there seemed a conscious effort to relax it at the earliest possible moment. Now that the pressure had been removed, there seemed to be a general agreement that the world's tonnage would be quite sufficient, especially in view of the fruition of present building programs, to meet all the needs which will be thrown upon it.

The story of the international control of shipping during the Great War, however, remains as an epic, both in its tribute to the Mercantile Marine and in its augury of effective international action.

The Riddle of the Deep

By C. H. CLAUDY



THE WAR TOUCHED us all, some it blessed—some blasted; it had no neutral effect. Science, art, literature, the peaceful professions have been all affected. Farmers were fighting units. Foresters were soldiers. Astronomers were dragged from observatories and contemplation of the infinite to considerations of compasses and rapid navigational mathematics. Even entomologists played a part in fighting the harder those insects which destroy the crops on which the soldiers fed.

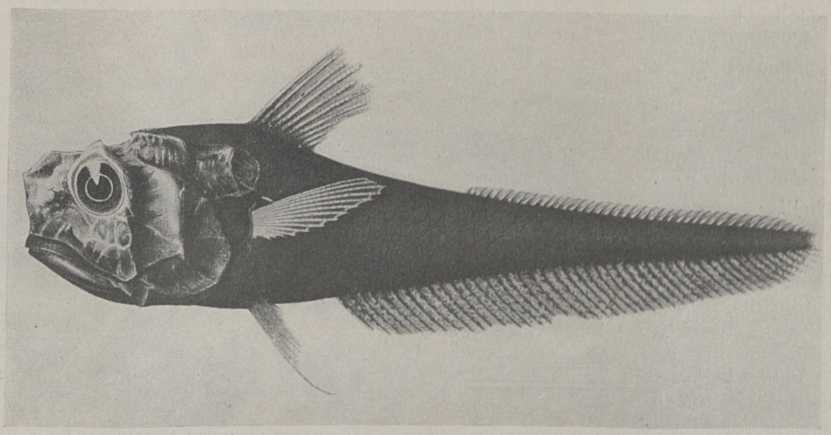
But would any one imagine that that most peaceful of the sciences, oceanography, would have been directly affected by the war?

Yet it has been. Oceanography, the science of ocean exploration, ocean bottom charting, and its allied science, oceanology, which is concerned with all that is in and of the ocean, will gain such an impetus from the war as neither has ever known before. And if good can ever come from evil done, here is a good to come from the U-boat.

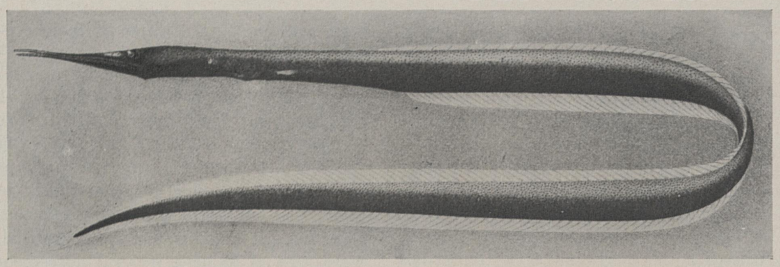
Millions of dollars' worth of material, ships and wealth have been sent to the bottom by the unseen torpedo. For centuries treasure hunting has been a favorite activity among those romantically inclined. Now, for the first time, do we absolutely know of the existence of sunken treasure, of vast value—know its latitude, its longitude, its depth. Can any one doubt that effort will be made to recover some of that treasure, when once more the sea is safe for a peaceful ship?

True, we cannot yet go very far down and bring up a sunken ship or a chest of gold. But it is only in recent years that we have learned to do many far more difficult things—to fly, to send messages through the air, to live beneath the surface of the sea in submarines. This treasure recovery problem is clean-cut and its factors are known. The answer is sure to come.

And when it does come it will come largely because of what oceanographers have discovered; how deep is the sea, and where is it deep, what are the characteristics of its bottom, and the life which there lives, as well as how these matters have been investigated. Nor will the modern treasure hunt neglect to pay its debt to the science it will invoke, for who can doubt that in making these recoveries—recoveries of such value as will make even a great expenditure of time and money well worth while to make them—oceanography will reap a rich harvest, and science be the better for vastly increased stores of information which will come from these practical explorations of the deeps of the sea after those ships and their contents which the Hun has sent from sight of man.



With a name like Hymenocephalus aterimus, he hides nearly 5,000 feet under water



A search for the sea serpent through the reports of the U. S. Fish Commission revealed this Hawaiian bathybian. He lives in water 4,000 feet deep and is nearly 7 inches long

"An old sea captain, he was, spent his whole life at sea. And, as soberly and as earnestly as he could speak, he told me he saw it in the China sea, logged it, and got the signatures of his mate and half the crew!"

"The morning after the night before!" laughed the Naval Constructor. "You can't make me believe in the sea serpent in any such second hand way as that. Why, if I saw the thing myself I'd not believe it!"

"Well, I felt that way about it myself!" smiled the first speaker, who wore a commander's stripes. "Only—"

"Only what?" the Scientist tilted back his comfortable chair and shot a swift glance from under bushy eyebrows.

"Only there are so many, many queer things in the seven seas we sail, and I don't suppose we know them all, not yet!"

"Possibly not!" The Business Man spoke incisively. "But science has gone a long way and science tells us that the sea is not a mystery; just a lot of water, and that there are no such things as sea serpents. I've a mind to ask the Department to investigate your sanity!"

"Well, I don't know." The Scientist spoke slowly. "I'm not at all sure about the sea serpent, because it is one of those questions which the science for which I see you have a becoming veneration has as yet offered no answer, any more than it has for hundreds of other questions about the ocean, its floor, the secrets of what is really at the bottom of miles of water, the life which may exist at pressures we cannot realize, though we can measure them, the knowledge nature has concealed from us with an impenetrable barrier of fluid."

"How do you mean, impenetrable? Don't we sound it?"

"Oh, yes, we sound it. It may appear odd that we, who know so well how to discover so many things, should know so little of the world beneath the surface of the sea. We sound its depths, we drag its bottom, we devise instruments for measuring its temperature and its pressure and how far the light goes down; we drag up from lightless depths fragments of fishes strange to us. Earths and ooze have told us curious stories beneath the microscope, but when the whole is written, it is just a page in the book we may some day read."

"But why, why? Why don't we finish the job and find out?"

"Well, let us suppose," began the Scientist. "Perhaps it will be easier to understand why we don't know more, if we pretend a little. Let us suppose a group of beings from Mars float down nearly to earth in some interspatial ship. Let us suppose they can get six miles from the earth and no nearer, and that during their visit, the clouds are so thick they cannot see the surface of the earth. They know the earth is there, and that is all they do know. So they let down lines and being clever, devise ways by which the lines let them know when they 'strike bottom'. They drag containers of various sorts across the surface of the earth. They haul up a daisy, culled from a field, a horseshoe, cast in the street, a bit of broken stone from the road, perhaps a rabbit or a squirrel. And from these they must deduce a world of men, cities, railroads, inventions, civilization! Of course, they couldn't—be their cleverness no matter how great. Out of sight of earth, with no means of exploring other than those feeble ones they might drop at the end of lines, what could they learn in a day, a month, a year, of what the earth was really like?"

"Granted!" answered the Business Man. "I see your point. But do you really suggest, like H. G. Wells, in his romance, that there is a race of reasoning beings down at the bottom of the sea?"

"Hardly," answered the Scientist. "But I do not fear to assert that there is absolutely nothing in the researches in modern oceanology and oceanography to prove that there are not, in the depths of the sea, forms of life of which we know nothing, prehistoric ocean monsters of size and shape and color and ways utterly unknown to us, or even to say that it is by no means impossible that one of such as these, risen to the surface by some sub-submarine disturbance, may have, more than once, been the cause of the never believed reports of otherwise trustworthy observers that the sea serpent actually lives!"

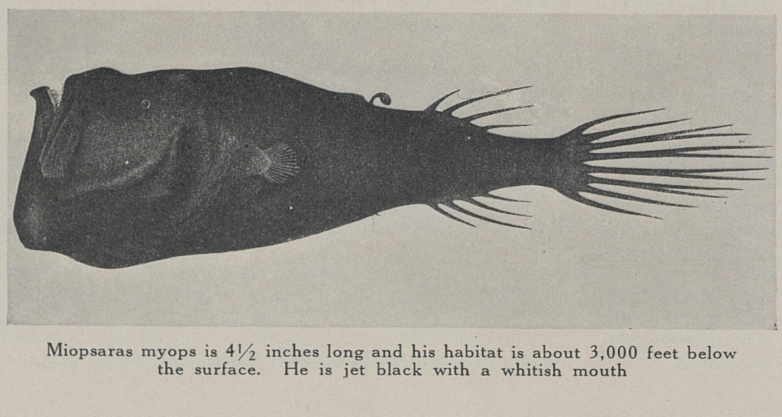
"Go ahead, man. If I find out I really know a man who saw a real sea serpent, I'll ask for promotion at once!" cried the Commander.

"Our means of knowing what is beneath the surface of the sea is no greater in extent or powerful in ability than those which my mythical visiting Martian has been supposed to possess," went on the Scientist. "Our divers can descend a bare two hundred feet, our submarines and diving bells but a rod or so further. After that, the pressure becomes so great that nothing which lives on the surface of the earth can endure it. Nature made us able to resist increases in pressure but moderately and decreases of pressure no better. And with no material which we know, with no system of cantilevers and braces, can we make a submarine which will float at the surface when wanted and still stand the terrible pressure of great depth below the surface.

"So we let down our lines and our instruments and bring up our little samples of bottom. We drag the ocean floor for shells and microscopic life, we send down cameras and thermometers and water bottles and do the best we can, but the pages of undersea romance are yet to turn."

"And never will be turned!" The Business Man prides himself on the quickness with which he can catch a point or change his mind.

"Let no one say they will not be



Miopsaras myops is 4½ inches long and his habitat is about 3,000 feet below the surface. He is jet black with a whitish mouth

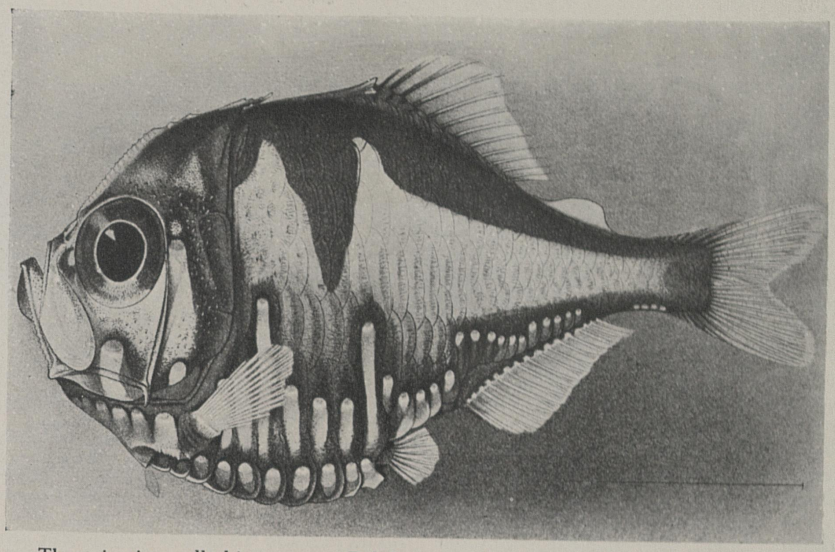
turned. Almost as Fraunhofer discovered the principle of the famous lines in the spectrum which have made his name immortal, a great teacher stated as an axiom 'Man can never know the composition of the sun or stars.' Now, by a means the teacher did not imagine, we know more of what is in the sun and many stars than we do of what is in the earth. A great physicist proved mathematically that man could not fly, and the kaiser seemed to think he was going to win the war! So just because we haven't *yet* discovered *how* to discover all that the ocean hides is no reason that we never shall!"

"Just what do we know about it, then?"

"Well, that's rather a comprehensive question isn't it, even for so young a science? Oceanography has made immense strides in the last few decades. Apparatus has been improved, methods have been revised, more and more interest has been manifested. Our charts of the floors of our ocean are not revised with every expedition, so well and so thoroughly has previous work been done. And these ocean charts reveal much, much that is wonderful, even stupendous. If some power were given man suddenly to remove all the water in the sea and look at its bed, he would see scenery such as the earth cannot show him. Take the Bahama Isles, for instance. We know them as pleasant tropical islands where one eats the lotus and indulges in day dreams. Take away the sea and we have a stupendous slope seven hundred miles long and over two miles high; the edge of a plateau cut by deep canyons, at one end of which Cuba would rise another Everest, twenty-eight thousand feet above the ocean floor. Dredge out all the water and we find hills and valleys, mountains and canyons, immense holes which we call 'deeps', shallow areas which are truly 'plains' and, could we keep the life which is there intact with the water gone, we might see things to which the sea serpent of fable or my friend's sea captain were as garden worms to elephants!"

"Oh, come now!" remonstrated the Business Man. "You have no real reason for such a supposition."

"Nor none against it," was the quick answer. "The life we bring to the surface from great depths, to our eyes which are familiar with surface life is curious and fanciful past all imagining. Unfortunately we must even imagine much of this life, for many of the deep down forms, once they come into what we regard as normal pressures, split, burst and disintegrate and we must needs construct the whole, in imagination, from very fragmentary parts. We know no animal to-day larger than the elephant or the whale. But we know that in prehistoric times were living organisms which would dwarf them greatly. We know that the mastodons and the peterodactyls, the icthyosaurians and the dinosaurs have disappeared because the character of the earth's surface, its climate and the processes of nature have made their continued existence impossible.



The scientists call this creature Polyipnus nuttingi but admit that nothing is definitely known concerning his habits. He lives 1,800 feet down and furnishes his own illumination, for it is pretty dark that far down below the surface

"But the sea has not changed. There never was a time when the depths of the sea were colder than they are now—there never was a time when their pressures were much greater or much less than they are now. The deeps of the sea represent to-day the same conditions which have there existed since the beginning of the sea, and if huge, strange and monstrous life *once* lived there, who are we to say it no longer so lives?"

"But surely, in all that time, some of this life must have died and floated to the surface—" The Business Man broke off suddenly.

"Would a dead man ever float to the surface of the six mile sea of air my supposititious Martians are floating upon?" was the Scientist's answer. "One or two men may have reached such a height in a balloon—perhaps in an airplane. If so, they must have broken on the astonished sight of the Martians as the fabled sea serpent upon the eyes of those who swear that such things they have seen. But would other Martians believe? It is doubtful!"

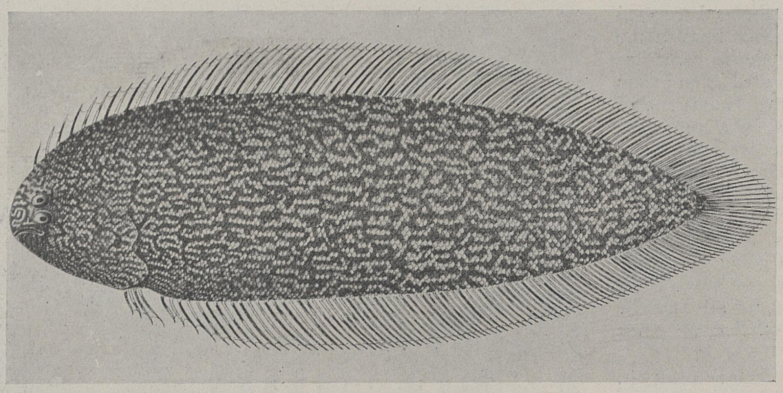
"Well, I'll agree for the sake of argument that the bottom of the ocean is alive with sea serpents!" grinned the Commander, "but I'd rather *know* what we know than what we suppose we might know if it was so and we could find it out!"

"Yet such an attitude doesn't produce discoveries," answered the Scientist, gently. "However, one of the things we know, and know without any doubt, is why such organisms, if they exist, don't come to the surface. We know the pressures. And they are inconceivably enormous. It will be no news to any of you that the atmosphere exerts a pressure of about fifteen pounds to the square inch of surface, and will support a column of mercury about thirty inches high or a column of water about thirty-four feet high. If the water is salt, it will support some thirty-three feet of it. So for every thirty-three feet we go down, we double the atmospheric pressure of the surface. At a hundred feet, then, we have a pressure of four atmospheres; at two hundred feet, seven atmospheres, and, so on.

"Now the sea is deep. Along the shores of a continent, it may be shallow enough, for the continent doesn't break off suddenly at the shore, but extends some distance out in the ocean with what is called the 'continental shelf' before that breaks down and slopes steeply to the sea floor proper. But the sea floor is not uniform; it has its 'deeps', its rugged mountains, its ridges, its holes and its canons. Altogether the range of depth runs as high as six English miles. This 'deepest spot'—meaning the deepest spot so far sounded—is in what is called the 'Swire Deep' off Mindanao and is 5,438 fathoms or 32,089 feet. If Mount Everest, highest peak in the world, could be dropped into the hole, the water above its snow clad summit would be over 3,000 feet deep!

"And six miles means a pressure inconceivable to man. It is 960 atmospheres, 14,400 pounds or six and four-tenths tons per square inch. Take a two hundred ton Mogul freight engine, set it on a block of wood six by six inches, and lay a man on the ground and the block of wood on his chest—the result would be the same as lowering him to the bottom of the greatest depth. He would be smashed flat. Only the engine would

exert six tons on only thirty-six inches of his surface, whereas the deeps of the ocean would exert it on every square inch of his body. And if living things exist at such depths, they resist such pressure. Naturally if such pressures are removed by an involuntary journey to the surface, there is no more left of them when they arrive than there would be of a man who went down!"



Symphurus undatus, a huge creature 4 inches long, makes his home in 1,200 foot depths. His color is "a warm brown, with narrow, wavy streaks of light olive, the streaks runnings in all directions and irregularly anastomosing." Perhaps that accounts for his pleading expression

"It does make you think, doesn't it?" nodded the Commander. "But how, then, could a sea serpent ever be seen?"

"Who says that it ever can? But who, tell me, says it must exist at so great a pressure and not at an intermediate level, or that it has not a greater power to resist changes in pressure than has man?"

"What happens to terrestrial substances at such pressures?" asked the Commander.

"Very curious thing!" was the answer. "Wood, forced down deep enough, has every cell imploded by pressure, and when brought up is heavy like iron, because filled with water. It is 'waterlogged' by pressure, not by time. It is—"

"Imploded? Do you mean exploded?"

"No, the opposite of exploded. To explode is to burst from within, out. To implode is to burst from without, in. An electric light bulb, when dropped, breaks with a loud report. But it is implosion, not explosion. The air rushes into the vacuum, and bursts the globe in. That is what happens to things under great external pressure, they implode. Explorers of the ocean have let down glass tubes, sealed at either end, wrapped in cloth, and protected by metal cylinders with holes in them to permit of the free passage of water. When hauled up from great depths two curious results have been found. The glass tubes disappear and leave in their place a fine white flour of glass. And the metal container is always dented as if with a sudden blow!"

"Well, read me the riddle, why?" asked the Business Man.

"If you lay a piece of glass on an anvil and hit it with a hammer it flies to pieces. But under the hammer the glass will be powdered," was the slow answer. "The pressure which finally overcame the resistance of the glass tube and imploded it, was pressure exerted suddenly (for glass ruptures instantly, not, like wood, gradually) and exerted all over, at one and the same time. It was hit with Neptune's hammer on every side at once."

"And the dented metal tube?"

"So swift is the action of the pressure that there is no time for the water without to flow through the equalizing holes in the metal container; it simply bends in the containing tube as space is made inside by the imploding glass tube!"

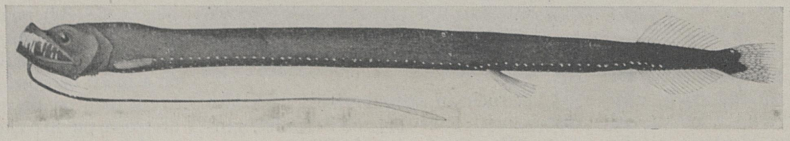
"And yet you say things live there?"

"Why not? Don't we live surrounded by pressure? It would be perfectly possible to put a human body under a pressure of six tons to the square inch, and preserve its form, if one had the body and time and the apparatus to make the pressure within equal to the pressure without. Let down your glass tube open at both ends and you can withdraw it whole from any pressure not too great to rupture the glass by its very weight. A sponge has but feeble structural strength, yet a sponge is not compressed at any depth of water, because the water —and the pressure—flow freely through it. Your deep sea fish is so constructed that the pressure within and the pressure without are equal, just as we have a pressure of fifteen pounds per square inch within us. If we were suddenly plumped into a vacuum, we would burst from internal pressure. But if we were put in a glass case and the pressure very, very gradually reduced, it would as gradually equalize and we would remain very much as we are now, only, of course, very, very dead. And so it is conceivable that if we could hook on to a line, at six miles down, some deep sea organism and bring it to the surface, very, very gradually —oh, taking weeks for the process—we might get it up whole. When a diver descends for a few hundred feet, he must come up very, very slowly, else his joints, his lungs, his ears burst with the suddenly relieved pressure. And we are dealing now, not with pressures of a few atmospheres, but of hundreds!

"It is a strange world, this. There is no light there—at least no external light. Sunlight penetrates from a few feet to a few thousand, as our submarine cameras have proved, but its greatest penetration is small compared to the greatest depth. The temperature is near to freezing and practically constant. Motion is slight, for ocean currents are surface currents and the deeps are disturbed by surface movements about as much as the bottom of a pail of water by a speck of dust which lights upon its surface. Yet in this dead, cold, compressed world is life; life spawning and crawling, life swimming and wiggling, life in quantity, not rare, for all our soundings and draggings and trawlings over the ocean floor reward us with something that lives."

"How about such pressures having an effect on things that normally float, sinking ships, for instance? Won't there come a point where they can sink no further?"

"No. Water is practically incompressible. Its pressure at depths is static, not dynamic. If it decreased its size as the pressure increased, of course sinking ships would 'find their level' when the weight of the ship was equalled by the weight of the compressed mass of water about them. Practically anything that will sink in a glass of water will sink to the bottom of the ocean. The *Titanic* at her three-mile-down home is well buried in the ooze at the bottom, and much the same as she was on the surface, save that every sealed chamber has been imploded, every bottle of wine not filled to the brim either burst in or with its cork driven in, every stateroom filled with water, every pipe broken and filled.



This terrible monster, Leptostomias macronemia is nearly 3 inches long. He lives 2,700 feet below the surface and carries his lighting arrangements with him. His jet black color adds to his piratical appearance

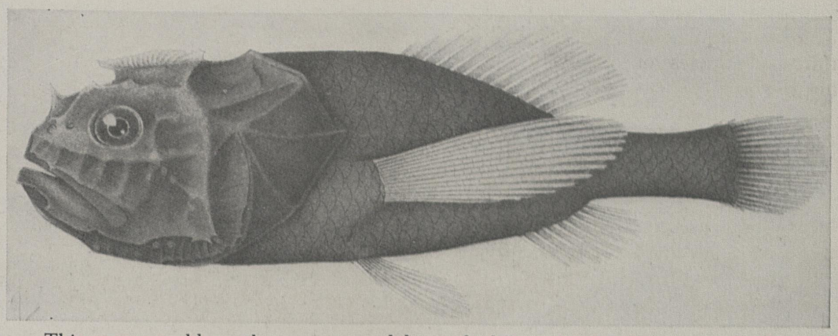
Human bodies buried at sea must have a weight to sink them, not because they wouldn't *eventually* sink of themselves, but to overcome the floating tendency caused by formation of gas in the decaying machine."

"How much of the area of the ocean is deep, like that?" asked the Business Man.

"That depends on what you mean by 'the ocean'. The greatest 'deeps' are in the Pacific. The greatest shallows—well, it isn't customary in estimating areas of depths to consider soundings of less than 1,000 fathoms, so I won't express an opinion regarding them. Of course, the soundings in shallow water are simply numberless, but, considering the amount of knowledge we have of the sea floor as a whole, the deep soundings are very few. There have been made something like six thousand soundings of between one and two thousand fathoms, about thirty-five hundred between two and three thousand fathoms, perhaps three hundred between three and four thousand fathoms, and less than fifty between four and six thousand fathoms. These are official (British Admiralty) figures. Private explorers have doubtless made many not so recorded, although not many of the very deep ones. From the soundings we have determined that 16 per cent of the 140,000,000 square miles of ocean has a depth between nothing and a thousand fathoms, 19 per cent is between one and two thousand fathoms deep, 58 per cent between two and three thousand fathoms deep, 7 per cent between three and four thousand fathoms deep and rather less than 1 per cent lies deeper, between four and six thousand fathoms. It is estimated that perhaps 200,000 square miles are between four and five thousand fathoms in depth and less than 5,000 square miles lie 5,000 fathoms or more below the surface."

"But that doesn't leave you any percentage for greater depths!" complained the Business Man, adding figures on his cuff.

"Well, its highly improbable that there are any greater depths. I don't mean that there may not be a hole somewhere nine or twelve or twenty miles deep, although I doubt it. But it cannot be of great extent or we would have found it before now."



This grumpy old gentleman was rudely yanked from his business over 5,000 feet down and dubbed Melamphaes unicornis. Though but an inch and a quarter long he is still resentful

"Why haven't there been more soundings made at great depths?" the Commander wanted to know.

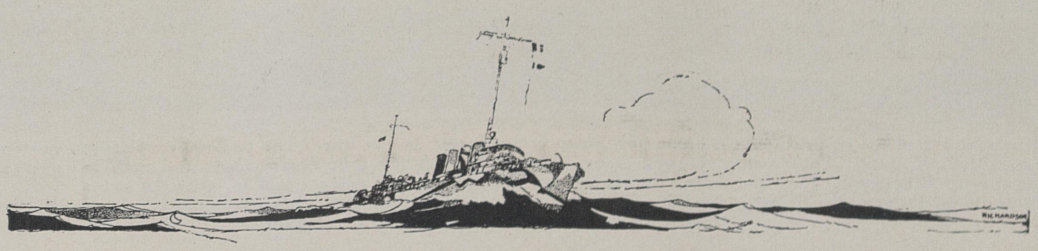
"Because of the difficulty. It isn't a simple matter. A wire seven miles long is an unhandy thing to handle. It takes a power winch to raise or lower it, it must have a weight which unhooks itself at the bottom (otherwise it would break coming up) it must have some apparatus (accumulators, we call them) to take the shock of movement of the vessel, and the weather must be propitious. To bring all these factors together at the time and the place is by no means easy. Such a sounding may take half a day to make. In the old days of rope, instead of wire, it would hardly be possible to make it at all, and the stretch and twist of the rope would seriously interfere with its accuracy.

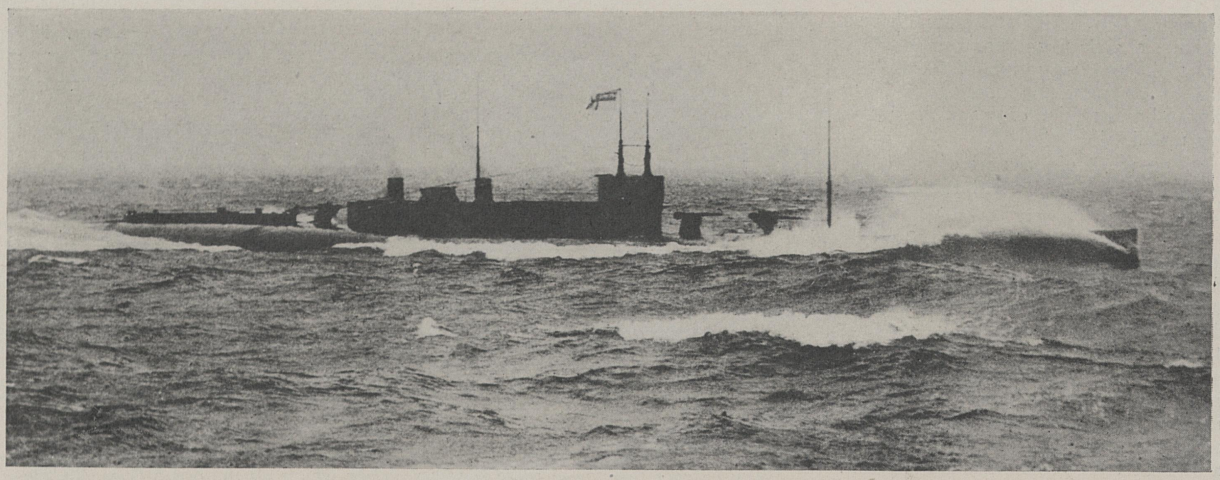
"But we have learned pretty accurately about the 'deeps' of the ocean, spite of the difficulty. We know fifty-seven such deeps, thirty-two in the Pacific, eighteen in the Atlantic, five in the Indian Ocean and two in the Southern Ocean.

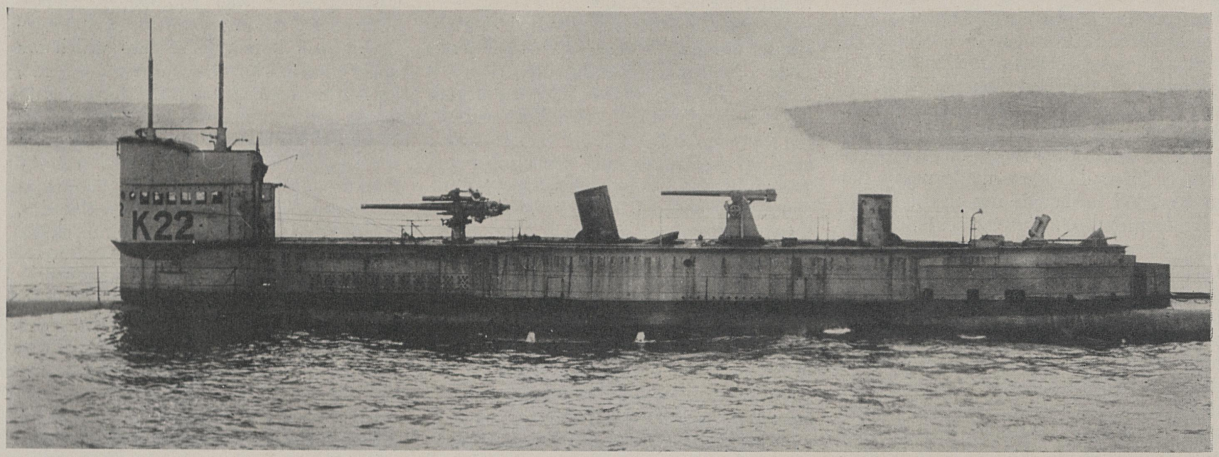
"And it is extraordinary, when you come to think of it, how much ocean bottom there is and what we don't know about it. The average or mean ocean depth, world over, is 2,080 fathoms. The mean land height, world over, is 2,250 feet. If some process could level all the land, and fill it into the sea, the whole ocean would have a mean depth all over the world, completely encircling it, of about 10,000 feet. This level (1,700 fathoms) is called the 'mean sphere level' below which all the ocean floor can generally be regarded as the abysmal plain covering more than 100,000,000 square miles, more than one-half the earth's surface. And it is this surface which we undertake to chart, to examine for life, for temperature, light, salinity, pressure —yes, and for 'sea serpents'—with a few let-down piano wires, a few dredges, a few drags! Is it any wonder that I say that, wonderful as have been the strides in oceanography in the past few decades, the book is still to read and the riddle still to solve?"

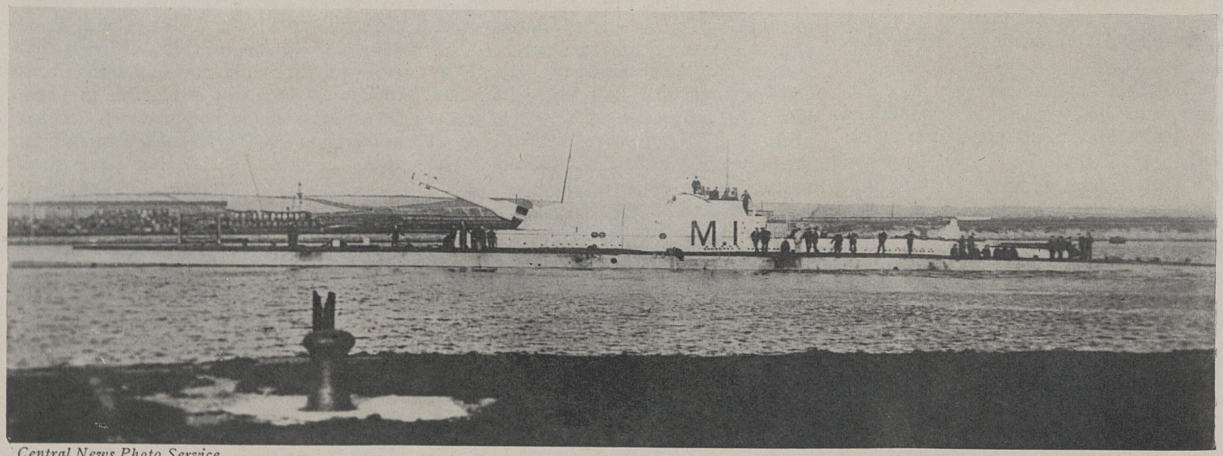
"Well, I'd like to see that sea serpent!" added the Business Man, and he was still unconvinced.

"So would I," answered the Scientist, frankly. "In the old testament we are told 'the Lord caused the sea to go back, made the sea dry'. I should like to have seen it. But if we have no way of duplicating that miracle, at least we stand just on the threshold of new ways, new methods, and it may well be that the coming century, when war ceasing once more gives us a chance to think of great discovery and research in the greatest frontier left to man to penetrate, may see revelations of the bottom of the oceans which will dwarf the sea serpent and make the fabled monsters of Revelations but childish imaginings. For the sea is nature's great riddle, and her deeps are problems yet unstated, their answers not even guessed!"









Central News Photo Service

Every now and then the British uncover some new weapon developed in the war. The two upper pictures show a submarine of their K class. These boats are said to be 340 feet long, 3,000 tons displacement and with two 4-inch guns besides anti-aircraft guns. They are driven by steam when on the surface and are said to make 24 knots
The lower picture shows the British submarine M-1 which mounts a 12-inch gun, an enormous piece of ordnance for such a craft. She has been called a submarine monitor



Central News Photo Service

Last summer we began to hear of a new type of boat developed by the British and known as the C.M.B.'s—coastal Motor Boats. They were small, high speed launches and were manned largely by former yachtsmen. The upper picture shows a group of them in formation; below is a single boat dancing over the waters of the Channel

"Lest We Forget"

NOTE: *The Navy League is endeavoring to record and perpetuate the service records of those Americans who entered the Great War in the ranks of the Allied nations before the declaration of war against Germany by the United States. It is requested that all persons having information of such Americans communicate with L. S. M. Robinson, Department 6, Navy League of the United States, 1519 Walnut St., Philadelphia, Pa.*—EDITOR.



WHO WAS THE first American to fight in the Great War? We think the following account describes one of the first, if not actually the first of the men who fought in the armies of the Allies before the entry of America into the war.

Harry Grayson Martin, of 122 East 82nd Street, New York City, enlisted in the British Army on September 1st, 1914, less than a month after England declared war. He was attached to the Staff Intelligence Corps of the General Headquarters Staff. Later he was on the Divisional Staff of the 2nd Cavalry Division, under General Gough. He received the decoration of the "Mons Star," showing that he was one of the "Old Contemptibles." As the years have passed this decoration has become a greater and greater title of honor. In addition, Lieutenant Martin has been mentioned for the French Service Medal, the Belgium Service Medal; the Order of Leopold will probably be conferred upon him.

On the 14th of October, 1914, he was wounded and, in consequence, captured by a body of Uhlans. This was near Warneton, Belgium; the next day he was taken to Douai. He reached Crefeld Camp, in Germany, on October 21st. While there he made fourteen unsuccessful attempts to escape; he was then moved to the Augustabad Camp in Mecklenberg-Strelitz. To reach this camp he had to pass through Berlin and was permitted to take tea at the American Embassy, accompanied by his guard. We can imagine what a pleasure this must have been to the American after nearly two years in German prisons (July 6th, 1916). At this time America was neutral and as a soldier of the British Army it was impossible for our Embassy to help him. He made three attempts to escape from Augustabad without success. Lieutenant Martin was later passed by the Swiss Commission for exchange and sent to Constance, but the application was refused; he again tried to escape but, failing, was returned to Heidelberg, Baden. There seems to have been no lack of American energy for he made four efforts to get away from Heidelberg and, when in March, 1917, he was moved to Crefeld he tried twice more to gain his freedom.

From Stroekenmoor Camp, where he was in May, 1917, until August, 1917, he finally was successful in escaping, but this, the twenty-fourth effort this indomitable man had made, was a failure for, when within a few miles of the Dutch border, his strength failed from lack of food and water and he was recaptured. He was in the Schwarmstedt Camp in Hanover until October, 1917, and the Holzminded Camp, also in Hanover, until February 6th, 1918, when he was exchanged to Holland and interned. There he married and on September 23rd, 1918, was returned to England, having passed forty-one months in German prisons. He reached New York December 17th, 1918, and received his official discharge from the service about January 15th, 1919.

Lieutenant Martin took part in many battles; he was in the retreat from Mons, the battle of the Marne, Aisne, Mont des Cats and the first battle of Ypres.

We would like to put Lieutenant Martin on record as the first American in the War and should our readers have information to the contrary we request that it be sent to the address given above.

Information is asked in regard to the following men:

J. S. Atlas, Somerville, Massachusetts; Private F. J. Bourdon, Pullman, Illinois, in the Canadian Army; Private J. E. Fawson, 27 Dennis Street, Roxbury, Massachusetts, killed, was in the Canadian Army; Private D. McGillis, 17 Hillside Street, Watertown, Massachusetts; Private A. T. Atcomb, Detroit, Michigan, Canadian Army. No information can be procured at the addresses given.

Among the answers to the questionnaire recently received is the frank statement which follows:

Name: Edward Ambrose.

Address: Elizabeth, New Jersey.

Date of enlistment: December 17th, 1915.

Regiment, etc.: 97th American Legion, 1st British Columbia Regiment, 7th Canadian Infantry Battalion, No. 1.

List of promotions: Ups and downs.

Rank at close of war: Buck private.

Decorations, etc.: The original identity disk, brought back from the Great War.

Wounds and date: Full of gas, 17th of March, 1917, and still blowing off. Took part in the following battles—Ypres, Somme, Vimy Ridge, Hill No. 70, Paeschandael, Lens, Arras, etc.

Date of discharge: February 18th, 1919. A.1 Category.

Details, etc.: Not dead yet and am answering your message myself as there is no nearer or dearer kin than myself, "Get me?"

It may be added that the inquiry blank had been sent, through wrong information, to the "next of kin."

Name .....

Home Town and State where record should be kept ..... *Birthplace* .....

If Naturalized give date and place of naturalization ..... *Date of Enlistment* .....

Name or Number of Regiment and Battalion, and of Company. Battery or Cavalry Squadron; Ambulance Section; Air Squadron and Group .....

.....

List of Promotions .....

Rank at close of war or at discharge from Army or Navy .....

List of Citations, Mentioned in Dispatches, Decorations or other Rewards received for gallant conduct .....

.....

If Wounded give date and in what action received .....

.....

Took Part in the Following Battles .....

.....

Date of Discharge from Service: .....

Date, Cause and Place of Death: .....

Signature ..... *Permanent Address* .....

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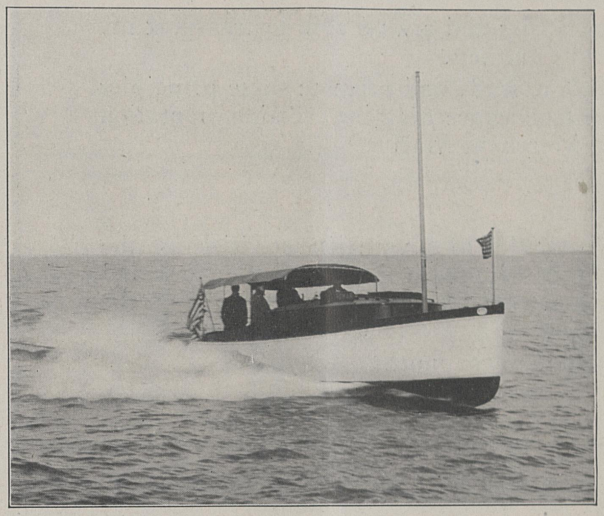

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The maintenance of a patriotic organization to study and promote these principles and to ascertain and lay before the people the facts concerning the creation, operation and administration of my country's Navy and Merchant Marine.

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That it should adopt broad fundamental policies to govern its activities for the objects herein advocated, and within the limits thus adopted it should aid the work and support the official decisions of the Departments of Commerce and the Navy, the Shipping Board and the technical service officers.

THEREFORE, To these principles I pledge my support.

Exploits of the "Little Navy"

(*Continued from page 232*)

chaser groups on enemy submarines on this coast, some working in conjunction with destroyers, and some by three chasers alone, using depth bombs when the enemy was located by means of underwater listening devices. There are grounds for belief that at least one of these attacks was successful in disabling or destroying a "Fritz," but no authentic information has yet been given out of the result, probably because of the difficulty of bringing conclusive proof back of a "kill," especially if the water is deep—and most of the enemy subs operated off the 50-fathom curve on this side.

Probably as severe a test of the little boats as any was the trip that some eighteen of them made from the Pacific to the Atlantic Coast. These boats were built on Puget Sound and when finished were sent to the Atlantic Coast (and some from there across the Atlantic) under their own power. Most of the trip was made with no escorting vessel or mother ship, the chasers being thrown on their own resources. There was no paymaster along nor funds of any kind except what personal money the officers might have, and the men did not see a pay day for four or five months, the pay accounts being always about one jump behind when they hit port. Yet all the boats got through and most of them in better condition and more efficient than when they commenced the long 8,000-mile voyage.

There were, all told, about 400 officers and men on this squadron, most of them with no previous sea experience, remember, and a funny story is told about them on their arrival at a certain Southern port. The senior officer of one group, an ensign fresh from a short-course training school, called on the commandant to try to get some much-needed cash, as the missing pay accounts were still not in evidence. It is said the conversation was something as follows:

Commandant, testily: "Why do you bother *me* about your pay accounts? We haven't them; go to your own paymaster."

"But we have no paymaster aboard, sir."

"I know you have none aboard your own vessel, but go to the paymaster of your group or squadron."

"There is no paymaster with the squadron, sir."

"Well, then, go to the pay officer of the mother ship."

"There is no mother ship, sir."

"What's that, no escorting or mother ship?"

"None, sir!"

"Now, let me get this right. You say these eighteen little boats came all the way from Puget Sound, through the Panama Canal and up here without escort of any kind, without a pay officer or any funds, without a medical officer along, without a supply ship to call on for fuel or stores, and no repair vessel. And you all got here."

"That's right, sir."

"Well, my God, that's got the voyage of the *Oregon* skun a mile!"



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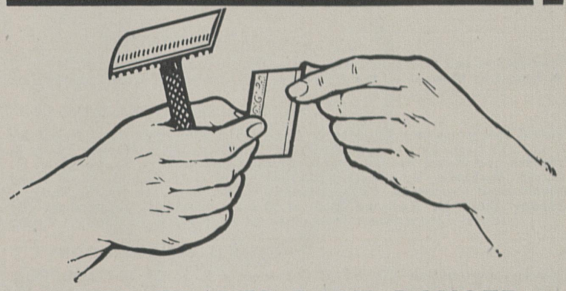

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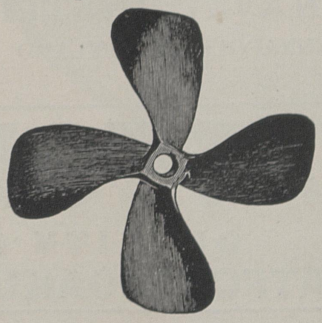

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(*Continued from page* 260)

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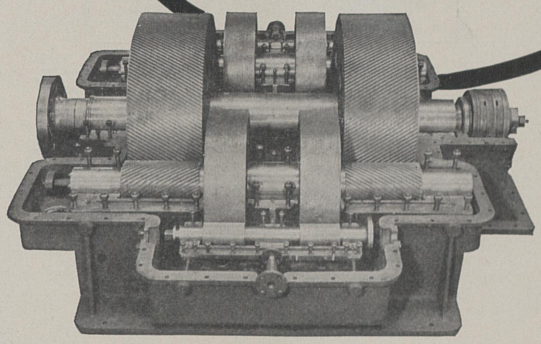

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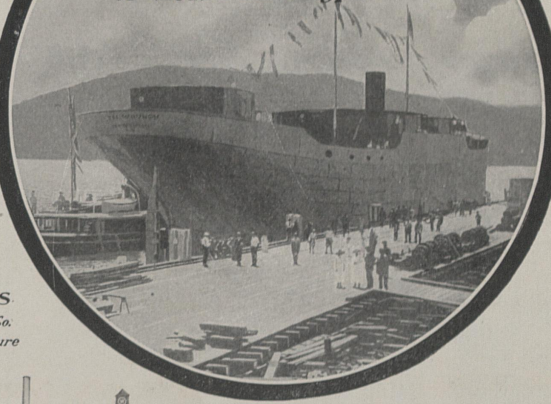

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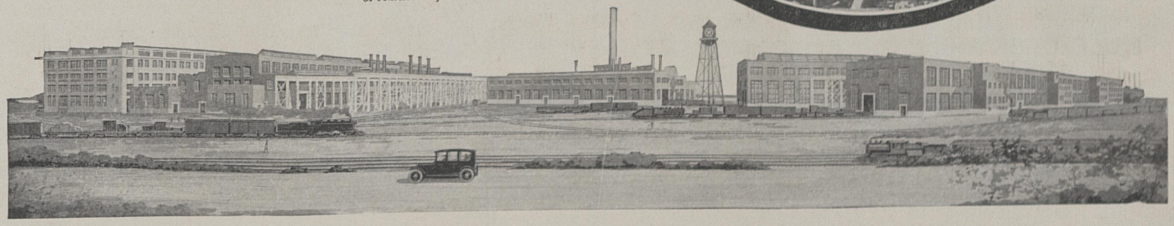

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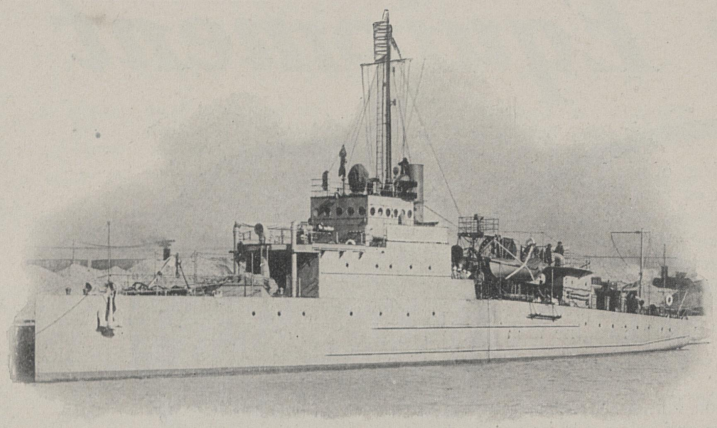

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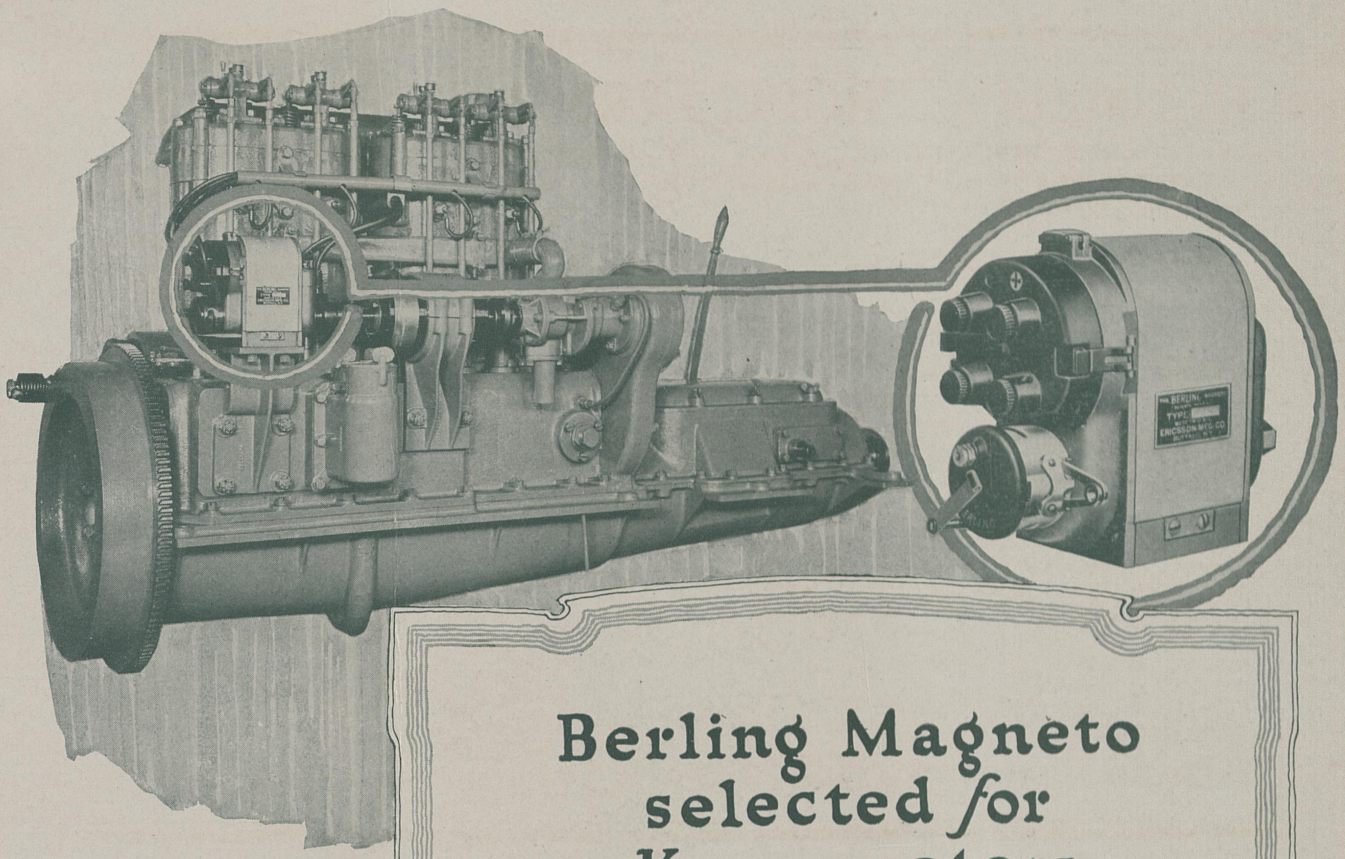

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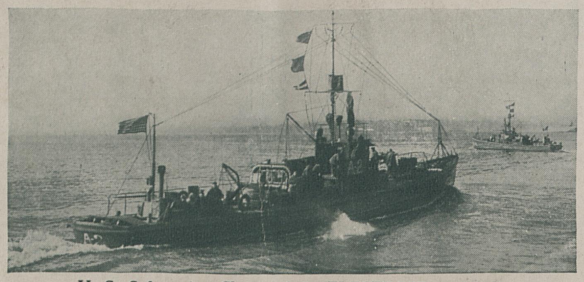

U. S. Submarine Chaser A-2—ELECTROSE-equipped

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Exploits of the Little Navy



Group of U. S. Submarine Chasers—ELECTROSE-equipped

See Page 229

Exploits of the Little Navy

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U. S. Submarine Chaser 61—ELECTROSE-equipped



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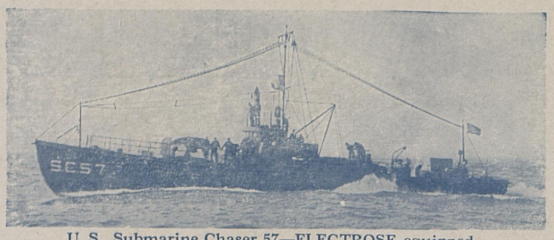

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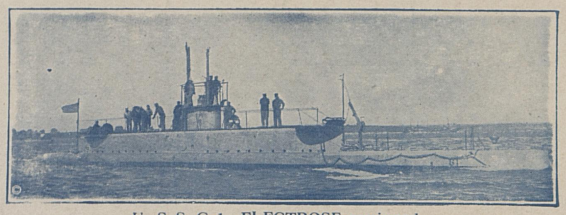

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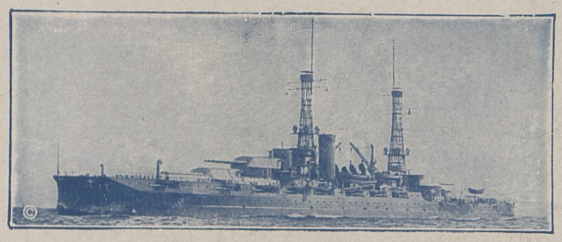

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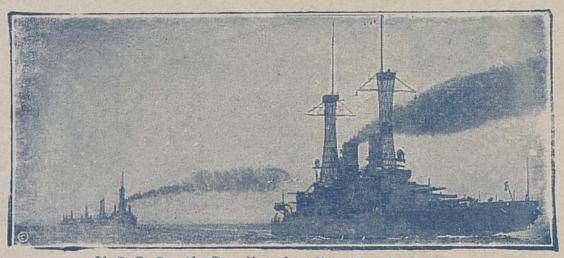

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CONTENTS *for* MAY, 1920

WITH THE AUTHORS

This issue of SEA POWER contains a faithful digest of the chief testimony of naval officers on the Sims charges. The next number will contain an analytical review for the purpose of enabling readers to form a correct opinion as to the issues involved. It is important for the real friends of the Navy to have "the truth, the whole truth and nothing but the truth," regardless of its effect upon any person.

There is something worth thinking about in Mr. Dennison Brown's exhibit of the diminishing supply of fuel oil. With all the world building oil-burning engines and with motor transportation increasing daily, it is a serious question who will control the areas of deposit. One cannot help thinking that if some of the frenzied thought applied to partisan political issues, domestic and international, were given to this subject the United States might profit.

Mr. Marc Tiffany Greene's "Iron Ships and Iron Men" will be worth reading by those who imagine that there has been deterioration in American manhood and patriotism. Whenever a crisis arises Yankee resources prove adequate, though this is not to say that we should depend upon native ability and vigor without preparation or training. Mr. Greene, who is an experienced newspaper man, has just entered service with the State Department and will be stationed in England.

Mr. E. B. Collins, who contributes an informing article on the Mariner's Chart, is a nautical expert in the Hydrographic Office of the Navy Department and is the author of a work on Navigation and Nautical Astronomy. The landsman will be as much surprised as interested in learning how ships are enabled to sail safely in dangerous waters.

Lieutenant Clifford Albion Tinker, who writes vigorously against the proposal for a separate air service, has had training and experience which entitle him to be heard. He is an architectural and structual engineer of several years practice; served in the Spanish American war in the First Regiment of Artillery; commanded the Seventh Deck Division of the Massachusetts Naval Militia for eight years, and served in the Naval Reserve Flying Corps as First Assistant Assembly and Repair officer for Europe on the Staff of Admiral Sims, with the rank of lieutenant in the Great War. While in Europe he travelled 21,000 miles in executing details of organization and operation of thirty stations and twelve bombing squadrons maintained by our Naval Aviation forces abroad. He was at Trepassy, Newfoundland, on duty in connection with the Navy trans-Atlantic flight.

The June number of SEA POWER will contain an interesting contribution on the mystery of the Cyclops by Captain E. K. Roden. He reviews the circumstances, analyzes the possibilities and advances a theory. The disappearance of the ship and 303 persons on board, without a trace of communication or wreckage, was one of the tragedies of the war, all the more distressing because of its complete mystery.

Mr. L. W. Alwyn-Schmidt in the June number will discuss the shipping of wheat and its place in world trade. Recent reports of the Bureau of Crop Estimates on the prospect for greatly diminished yield in the United States this year makes the contribution especially timely.

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SEA POWER

528 17th STREET, N. W.,
WASHINGTON, D. C.

Issued monthly by SEA POWER PUBLISHING COMPANY, INC. Clarence Ousley, President; Henry Breckinridge, Vice-President; William M. Galvin, Secretary and Treasurer, 528 Seventeenth St., N. W., Washington, D. C.

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Entered as second-class matter, November 12, 1919, at the postoffice at Washington, D. C., under the act of March 3, 1879.

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SEA POWER

Volume VIII MAY, 1920 Number 5

Navy Was Unprepared

Many Officers Confirm Criticisms Made By Rear Admiral Sims

THE various points of criticism of the organization and operation of the Navy Department prior to and during the first six or eight months of the war, contained in Admiral Sims' letter of January 7, 1920, to the Navy Department, were set forth in the April SEA POWER. Briefly, the criticisms offered are: First, that the Navy was unprepared for war, lacking material, personnel, and organization, and this in spite of the fact that a World War was in progress and threatened to draw us into it almost daily; second, when war was declared, a course of vacillation was pursued by the department, no organization or plan of action being evolved for many months; and third, a failure on the part of the department to coöperate with its representative in Europe, at a time when such help was most imperative, when the Allies faced defeat at the hands of the enemy submarines.

It is only fair to reserve judgment on the case until the Department has been heard. Without jumping at conclusions, however, it may be said that certain points made by Admiral Sims have been established—unless the department proves false the evidence submitted prior to April 10, when this report closes. Later testimony will be summarized in the June SEA POWER.

For example, Admiral Sims' mission was to learn from the Allies the experiences of two-and-half years of war, and place this information at the disposal of the United States; to keep up with the ever-changing developments; to administer American naval forces in Europe; and represent the Department on the Interallied Naval Board. Surely he should have had assistants. But in spite of repeated requests for help, in his cables of April 16, 27, 29, 30, May 8, 11, 14, 16, 21, 23, 25, 27, and throughout the month of June he was left without help from the Department during all this time except for the aide he took over, and two officers he obtained from the naval attache in London. In the meantime, some American craft had been dispatched to the war zone, shore stations had been established in three countries, and American troop transports had begun to arrive. In this connection it is interesting to note that Admiral Sims had need for an officer to supervise the details of troop transport, and requested one in his cables of June 11, 20, July 1, 3, 5, 9, 14, "without ever receiving an acknowledgment or reply" to his letter.

Among other things, Admiral Sims presented copies of messages to show that he recommended and urged the department to send destroyers, dreadnoughts, submarines, and tugs to the war zone. He further shows that the Department showed great delay in sending a considerable number of destroyers, that the dreadnoughts were sent after a delay of four months and then only because Admiral Benson had urged this measure; that submarines, the most effective anti-submarine weapons, were sent after a delay of six months; and that the first tug, urgently needed to save injured merchantmen, arrived in England one year after tugs were called for.

Opposed Reserves

Admiral Leigh Palmer: "I was constantly opposed by Mr. Daniels in my efforts to recruit men and officers for the Naval Reserve. In January, 1917, Mr. Daniels told me to quit accepting enlistments in the Reserve—that we had too many already."

Senator Hale: "And, of course, you had to stop these enlistments?"

Admiral Palmer: "No, we did not stop, but several weeks later the Secretary called me in and said he learned that I was still accepting these enlistments. I told him that in those particular cases that had come to his attention it was absolutely necessary that we have these technically trained men. It so happened that I was ordered to stop four or five times. Each time I made the best excuse possible and went on recruiting men. It all turned out that Mr. Daniels was very much pleased, because he went around the country making speeches about our accomplishments."

Corroborated

It is impossible for SEA POWER to publish the testimony of Admiral Sims, but it will all appear in printed form and will be available for those who wish to know the intimate details of naval operations. Not only has Admiral Sims established the main points of his criticism as summarized in the April SEA POWER, but he is corroborated by other officers in responsible positions, notably by Captain Harris Laning and Captain Leigh C. Palmer.

Captain Laning's testimony may be summarized as follows:

First. That in the years immediately preceding our entry into the war, the Navy Department did not take an attitude on legislation and policies that would enable the fleet to be made properly ready for war, and that the fleet was not properly ready when war was declared.

Second. That even when war was imminent, when it was apparent that war could not be avoided, the Department, even then, did not do those things that ought to have been done to make the Navy ready to carry on the war in its full strength and along the right lines.

Third. That at about the time war was declared, although a carefully drawn up plan, outlining what direction the Navy's first efforts should take, was prepared by the Office of the Chief of Naval Operations for the Department's approval, the plan was not approved and as a result, at the very time a plan was most needed, the Navy did not have any general plan that was based on the peculiar conditions imposed by an enemy whose naval effort was restricted almost entirely to the use of submarines.

Fourth. That not having a definite plan to work to, the various parts of the Navy Department could make no coördinated

effort to carry on the war but, on the contrary, each part was obliged to do what that part thought might be best, with the result that not only was the effectiveness of the naval effort greatly reduced in the early stages of the war, but also the cost of the war was probably considerably and unnecessarily added to.

Fifth. That during the war it was always difficult and frequently impossible to obtain the Department's approval of essential plans and policies; that this made it necessary for subordinate officers to go far beyond their authority to get things done, and that as a result the difficulties of carrying on the war were increased while the effectiveness was decreased.

In Close Contact

Captain Laning, as Assistant Chief of the Bureau of Navigation and often as acting Chief of the Bureau of Navigation, was in a peculiarly advantageous position to observe the intimate details of executive policy and conduct. On this point he says:

"From the time I reported for duty in the Navy Department on October 6, 1916, until I left it on March 31, 1919, I was in very close personal association with the Secretary of the Navy and the other leading officials of the Department. Not many days passed when I was not in personal conference with the Secretary on important subjects, or placed before him matters and papers requiring his action or signature. I was an adviser on many matters in regard to material while I was in Operations, and in regard to personnel while I was in Navigation. During the time I was acting Chief of Bureau I was the principal adviser as to personnel matters. Officially I came to know the Department and its ways very intimately and from my close association with the Secretary, and my intimate knowledge of departmental and naval affairs, I feel I am more than usually competent to gauge the Department and its methods. My statements are therefore not casually made but are based on my personal knowledge both as to the officials and to the affairs."

Captain Laning recalls the indifference of the Department and of the Congress to proper naval development prior to the outbreak of the European war, but he notes the change at that time and says:

"In any event, from August, 1914, until the spring of 1917, the press, the public, and Congress showed their willingness to have the Navy ready for war. With the plaudits of the country Congress authorized one of the greatest building programs ever known. It was generally understood in the Navy Department and throughout the service that all things necessary to make the Navy ready for war would be granted by Congress *if the needs were made known.* But even then the needs as to personnel—and personnel will ever be the life-blood of the Navy—were not truly presented to Congress. When Congress was seen to be anxious to put the personnel on a sound footing that the ships might be manned for war, the service was astounded to learn that the *Department* had recorded itself against any further increase of personnel, and this at a time when only about half our ships were manned with even peace complements. To prove this you have only to read over the Congressional records of the hearings on personnel in the years just before the war."

Board Report Suppressed

Admiral Fiske: "As to the personnel situation, the remarks in my diary during the months of October and November, 1914, contain frequent statements about the endeavors of the General Board and myself to get the Secretary to ask Congress for 19,600 additional enlisted men. I should be glad to read any extracts that the committee may desire. The gist is that the General Board decided to recommend that the Secretary ask for 19,600 more enlisted men, that the Secretary asked the General Board not to put that recommendation in their written report, that the General Board did so nevertheless, that the Secretary directed me to request the General Board to omit that recommendation, that the General Board finally did so, and that the Secretary's annual report, made in December, was generally interpreted as meaning that the General Board did not think that any more men were needed. In my later testimony before the House Naval Committee on March 24, 1916, I was cross-questioned on this matter. I told the whole truth about it; but, of course, it was too late."

Fully Warned

Notwithstanding the palpable imminence in February, 1917, of our entrance into the war, Captain Laning confirms the statements of Admiral Sims concerning the lack of preparation. On this point he remarks:

"Further confirmation of the conditions as to personnel at that time can be obtained from Captain L. C. Palmer, then Chief of the Bureau of Navigation, and Captain L. M. Overstreet, who had charge of the Enlisted Personnel Division. As for the material unreadiness of our ships with the fleet when war was declared, I refer you to a report submitted to the Department at that time by Admiral Mayo, Commander-in-Chief. That report was made to the Navy Department and should now be on its files or can be obtained from Admiral Mayo's files. Based on the work that it was necessary to do on them at that time and taking into consideration our available repair facilities, it was found that *it would take a period of over 100 days to get all battleships of even the active fleet materially ready for war.* I have in my possession the original estimate of the time for this work and later will refer to it and submit it in connection with another particular. Even though you may not care to delve into the Department records and Congressional hearings to ascertain that the Department did not make sufficient effort to have the Navy ready as to material and personnel, the evidence that the Navy was not ready in these respects will be before you in Admiral Mayo's letter just referred to and in the statement from House Document No. 11."

Continuing on this point, he says:

"For many months prior to February 1, 1917, our representatives in Germany were reporting on the situation over there. They gave us fairly accurate information of Germany's submarine building program and of her intention to carry on unrestricted attacks on merchant shipping, whether neutral or not, as soon as their submarines were ready. These reports can be found in the files of the Office of Naval Intelligence. But in spite of them the Department even then failed to take steps to get the fleet ready for war. As a matter of fact the dreadnoughts did not go to the yards for this work until summer—many weeks after the declaration of war. I wish to point out that had we sent the battleships to the yards in the winter of 1916-1917, and had concentrated on getting them ready for war so far as material is concerned, they would have been ready at least as to material when we declared war. As it was they were not ready at that time either as to material or as to personnel.

More Delay

"Taking up now the third particular, on February 1, 1917, Germany *announced* her campaign of unrestricted submarine warfare. At that time the country practically gave up hope of averting war and certainly then as never before there was the necessity of at least *preparing* plans for a war against Germany. Certainly we should have laid *some* plans *then,* to enable us to act promptly and

effectively if war should come. But although I was in the Office of the Chief of Naval Operations and would have known of them, I did not hear of any such plans."

He further relates that he submitted a memorandum on the subject on February 18, but being unable to get any action, took up the matter verbally with Admiral McKean in Admiral Benson's office, and Admiral Benson then and there "told the officers to take the question up and submit plans for consideration." On or about March 14, he submitted an estimate and a plan to Admiral Benson, who directed Captains Chase, Pratt and Schofield to examine it and draw up a more complete estimate and plan, which Captain Laning later learned was substantially the same as his own, and that the plan had received the approval of Admiral Benson, but that the approval of the Secretary could not be obtained.

"As nearly as I can recall," said Captain Laning, "it was about the first of July, 1917, before any well defined anti-submarine plan was approved. About that time the Secretary did approve the suggestions submitted by the 'Board on devices and plans connected with submarine warfare' and instructed the bureaus to take steps to carry them out. That, I believe, was the first really definite plan the bureaus were given, but it was not until then, about three months after the war started, that the bureaus had even as much of a war plan to work to as that."

Speaking of the Secretary's dilatory habit, Captain Laning said:

"Whenever a plan or a policy was presented to the Secretary he almost invariably delayed action on it. The personal interest taken by him in all matters connected with the Department absorbed so much of his time that he never had much left to give to us on the more important affairs. Therefore, when we would present something important, even though it might be urgent, we could secure only a few minutes to discuss it. We would generally be directed to leave the paper with him for consideration. Now it is remarkable but true that papers left for 'consideration' were for the most part not heard of again until the officer who presented the paper hunted it out. Frequently when it was followed up the paper could not be found. If it was found, there would usually be some reason for not approving it or of further delaying action. We always considered it much easier to get up a sound plan or policy than it was to get permission or authority to carry it out. It generally took longer to get approval, when we succeeded in getting it at all, than it did to formulate the plan or policy. This condition finally became so bad that officers used every means possible to put their plans and policies through without obtaining the required authority."

Navy League Service

NAVY DEPARTMENT

Bureau of Navigation

Washington, D. C.
February 21, 1917.

To: Commandants, Naval Training Stations,
Publicity Bureau,
Recruiting Inspectors,
All Main and Sub-Stations.

Subject: Coöperating with Navy League.

A letter received from the Navy League offers to turn over to the recruiting service about 1,500 branches of the Navy League for helping out in recruiting by recruiting mass meetings, getting the names of possible applicants, ex-enlisted men, etc. These branches can command the services of about three hundred thousand members, and will be of greatest value to the recruiting service.

You are accordingly directed to get in touch with the local branches of the Navy League without delay, and coöperate with them to the fullest extent.

The Louisiana branch has been running large display advertisements for the Navy Recruiting Station, 730 Common street, New Orleans, in one of the leading papers. This is one method suggested for utilizing the services of the local branches.

(Signed) L. G. PALMER.

Remarkable Attitude

Speaking further on this point, Captain Laning said:

"As for the distribution of personnel, the Secretary of course rarely knew about the distribution except in the case of officers. But in the case of officers I met most remarkable attitude in regard to sending officers not attached to ships abroad for duty in the war area. I made it one of the rules of the office that when Admiral Sims asked for officers he was to get them, but I always had lots of trouble getting such orders signed. As a matter of fact not once but several times during the war the Secretary told me, and told the Chief of Bureau too, *that he didn't want any more officers sent abroad*. Of course they had to go and we sent them by the simple process of assuming an authority we did not have and issuing the orders and passports ourselves."

Concerning the condition of the ships, Captain Laning said:

"About the time war was declared announcement was made to the public that the Navy was *entirely ready*, but as late as May 18, 1917, we were still urging that the battleships be sent to yards to have work done that was essential to their fighting efficiency."

And as to transports, he said:

"Even as late as July 3, 1917, I was still hammering away the little I could to get the transports turned over to the Navy. This is evidenced by a memorandum submitted by me to the Chief of Naval Operations on July 3, 1917, and which I will place in the record.

"From the very start I felt that we would not get any departmental action on this very vital question as to who would man and operate the troop ships. During the month of May, 1917, in conversation with my brother-in-law, Colonel John McAuley Palmer, U. S. Army, who was General Pershing's Chief of Operations, this question came up and I explained the situation to him. As a result of this conversation, through the recommendation of General Pershing and his staff the War Department began to advocate the taking over and operation of the troop transport service by the Navy.

"Under the circumstances it seems probable that had the Navy Department taken positive action when the matter was first brought up much time could have been saved and the Navy would have had those transports and would have been getting them ready fully one month before we finally did get them. It may be added that the transports first turned over about July 10, 1917, were with one exception the very ones suggested in the first memorandum."

In conclusion, after citing various documents in corroboration of his statements, he said:

"These memos show how strongly we had to argue before we could get any action. I have no knowledge as to what other officers submitted memos nor how long after the 'memo' method was started before action was finally taken. It is sufficient for me to show you what lengths we were put to to get action on vitally important matters and how such matters

(*Continued on page* 254)

Shall We be the Oil Beggar of the World?

By DENNISON BROWN

GEOLOGISTS tell us in effect that the economic and political security of the United States is resting today upon a foundation that will collapse in twenty years. That's a startling statement! What do they mean? Simply that at the rate at which petroleum is now being drawn from American wells they will go dry within that time. Is the conclusion overdrawn? It of course is predicated upon their "academic" consideration of a single element. But what an element that is.

What will be the position of a great power which twenty years from now controls no supply of petroleum for its industries, its merchant marine and its navy? Economically it will exist practically at the sufferance of the nations which do control it; they will name the price of the motive power of all motor transportation, the backbone of commerce, and the competitive advantages inherent in oil-burning merchant ships will enable them to drive the merchant marine of the other nation from the sea. It is unnecessary to portray the utter helplessness in future wars of any nation that may not command an adequate supply of petroleum. Marshal Foch is credited with the aphorism that a "drop of gasoline was worth a drop of blood" in the past conflict.

Little disconcerted by estimates of the Geological Survey, however, that the unrecovered petroleum deposits of the United States amount to less than seven billion barrels, or a twenty years' supply, we are threatening an even shorter life for these deposits by designing half of our merchant vessels, some 1,730 in number, to burn oil, and adding eighteen oil-burners to the Navy in the dreadnoughts and battle cruisers now building. In the present situation, we are predicating our national safety and prosperity upon an unceasing flow of petroleum from American wells. Should we stop building oil-burning craft, then, despite their manifest superiority, and handicap our industries by imposing restrictions to conserve oil? Common sense, of course, rejects any such course. But the logical and imperative one stares us in the face.

Practically, we have been supplying the world with oil, producing for some years up to 70 per cent of the total output, and our wells as a consequence are now 40 per cent exhausted. Our own demands have increased so enormously, however, that we are now consuming more oil than we produce. Our domestic storage was reduced twenty million barrels in 1918, according to official figures, representing the actual difference between production and consumption, with crude imports from Mexico just offsetting our exports of refined products. And from that aspect the situation is steadily growing more serious. Domestic consumption last January was more than six million barrels in excess of production for the month, despite the fact that production was two and a half million barrels above the monthly average for last year.

Government Gets No Bids

Figures are dry, but eloquent. Despite the rate at which we are approaching the dismal end, we are not producing enough today for our own needs. The pinch of shortage is already upon us. Pledged to the demands of an unlimited high-priced market, producers in the last month have virtually refused to supply fuel oil in the coming fiscal year for our Navy and merchant marine. Shipping Board proposals for twenty-five million barrels elicited bids for just one million, while less than a fifth of the Navy's requirements were offered. Secretary Daniels has said the Navy "must have fuel," and so it must. And it will probably be forced to go out and take it, as it has been doing on the west coast for a year or more. So even the present situation demands relief, regardless of whether or not we would recognize our obligation to protect the future.

And that relief lies in but one direction. To the unmeasured wealth of foreign fields, many perhaps more extensive than our own, whose oil has in effect been horded while we were spending ours, American enterprise must be turned. The Geological Survey tells us that in addition to the partly developed fields of the world, there are undoubtedly vast potential fields that have not been touched. Of these, America must be permitted the development and control of its fair share. It cannot submit to a future status of the oil beggar among nations.

But what condition do we face when we are brought imperatively to this conclusion? The known and unknown oil regions of the world, wherever under the control of the competing powers, have for the most part been impregnably barred to American citizens—to the citizens of a country which has always offered the same opportunity in oil development to foreign nationals as to its own. Great Britain and the Netherlands, controlling the most promising regions of potential supply in the world, have absolutely excluded Americans and all other foreign nationals from owning or operating oil-producing properties within their domains. France, already doing the same thing by preventing competition by foreigners through the arbitrary fixing of royalties on oil concessions, is officially reported to be on the point of making a state monopoly of all petroleum products. Italy is contemplating the same policy. Japan and Argentina have withdrawn all fields within their domains from private ownership, and official inquiry develops that the rich fields of Roumania, where Americans operated valuable properties before the war, are shortly to pass under a state monopoly of both production and distribution of petroleum products. It is unnecessary to rehearse the situation in Mexico, where attempts to nationalize under royalty assessment all holdings of foreigners seem to have been temporarily discouraged by protests from foreign governments.

Oil Regions Fenced In

The nations of the world have emerged from the experience of the late war vitally alive to the fact that petroleum is to be a ruling factor in their national security and progress. And its vital consequence to the political state has given birth to a strong nationalistic tendency which must in some way be equalized by this country if it is not to be outdone in the race. Great Britain, the Netherlands and France have not only fenced in the petroleum resources of their domains against foreign enterprise but their governments are supporting and lending every facility to their nationals in getting a grip on the world's reserves wherever this can be done.

The British government itself, indeed, is the dominant force in oil exploitation in the world today. By the recent purchase of large holdings in the Royal Dutch-Shell Company, the most rapidly expanding petroleum enterprise of the day, with properties in practically every known field, the British government is said now to completely control the operations of this great British-Dutch combine. To

visualize its enterprise and importance, its best properties spread to Venezuela, Mexico, the United States, Canada, British West Indies, Trinidad, Roumania, South Russia, Egypt and the Dutch East Indies. Through a controlling ownership in the Anglo-Persian Oil Company, the British government also holds a monopoly on the rich fields of Persia, embraced in the 500,000 square mile concessions to that company. And it is financing the exploitation of Australian fields.

In line with its determination to take a direct hand in the acquisition and development of oil properties for the British people, and also to stand behind and direct the activities of its enterprising nationals in foreign fields, the British government, by continuing the petroleum executive under the war cabinet, has created a permanent petroleum department to coördinate its program. By protecting the rights of British subjects, assisting and standing behind them in all matters pertaining to foreign concessions, this department is rendering precisely the service to the British citizen that the American promoter utterly lacks and imperatively must have. He not only gets no encouragement from our government but often very little protection of his rights. No foreign enterprise can be successfully conducted without whole-hearted government support.

Syndicated Competition

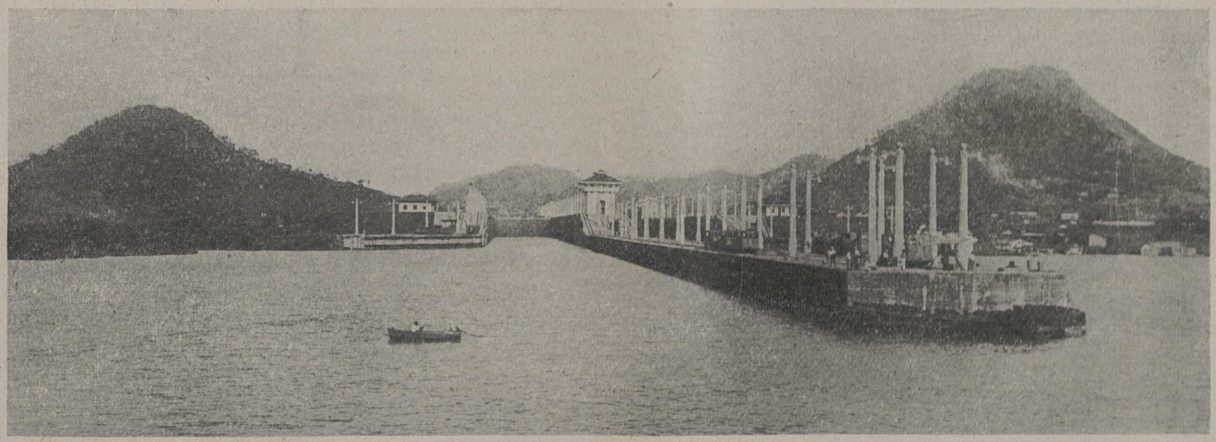
American oil companies today are competing individually against the highly syndicated British combines wherever they go to obtain crude oil or to market the refined product. By syndicate agreement and interlocking directorates the British companies, owned or backed by the British government, are competing with all the power of an enormous trust against the individual American company, which is seriously handicapped. Practically all of the smaller British companies are controlled through interlocking directorates by the Royal Dutch-Shell combine or the Anglo-Persian Oil Company, themselves controlled by the British government and forming a powerful unit in world competition under a close marketing agreement extending nominally until 1922. These companies are jointly interested in the United British West Indies Petroleum Syndicate and the Burmah Oil Company, thus bringing these powerful interests into the co-operative scheme of British petroleum enterprise. It may be noted in passing that the latter company is operating the rich fields of India under a blanket concession of 99 years which expressly excludes American prospectors.

Backed by the throttling force of these combined interests, the Dutch-Shell enterprise admittedly has set as its immediate goal the control of the oil bunkering facilities of the world, which would obviously mean domination of the shipping and commerce of all nations, for coal cannot compete with oil on the sea. Prediction that this control would be effected within ten years was made in a statement by H. W. A. Detering, manager of these interests, shortly before the war. While the war appears to have delayed the plan, the recent purchase by the Dutch-Shell of the Pearson properties in Mexico, a field of vast potential production, and those of the Mexican Eagle Oil Company, perhaps even richer, would indicate that the purpose is still there. With their widely distributed properties, which they are adding to as fast as opportunity presents itself, and a highly centralized control of production, distribution and marketing, ramifying far beyond their own properties, the goal is not by any means an unattainable one.

As the handicaps imposed by the syndicated competition of these interests in the petroleum trade become increasingly severe it of course has a correspondingly discouraging effect upon the enterprise of American companies in reaching out to get control of new sources of supply. Outside of the western hemisphere, in fact, the enterprise of American citizens in this direction today is negligible. To point out where British nationals are at present busying themselves in oil exploration or production, however, reads like an enumeration of all the discovered regions of the globe: Cuba, Turkey, Galicia, Mesopotamia, Madagascar, Syria, Tunis, French West Africa, Cyprus, East Indies, Ecuador, Peru and New Guinea, to mention a few of the localities. To many of these fields American enterprise would venture now with proper support and encouragement. And those to which it cannot go must by some means be thrown open to it.

We have dwelt upon Great Britain, but we also see French nationals avidly getting a grip on fields in Galicia, Greece and Roumania, in addition to their operations in Morocco and Algeria; and the Japanese in Formosa, China and a number of the Pacific islands.

The oil reserves of the world are being staked off. We must get into the claims rush or ultimately suffer an irretrievable loss of national power. If we do not meet the forehanded policies of other nations with some long-headed business organization on our own part, organization that will equalize conditions of world competition for our own nationals and back them up in efforts to dig in on a fair share of the world's lot, we face dire consequences.



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View of the Pedro Miguel Locks, Panama Canal taken from a steamer passing through Miraflores Lake



EDITORIALS

Distinction Without Difference

The United States assumes no obligation to preserve the territorial integrity or political independence of any other country by the employment of its military or naval forces, its resources, or any form of economic discrimination, or to interfere in any way in controversies between nations, including all controversies relating to territorial integrity or political independence, whether members of the league or not, under the provisions of Article X, or to employ the military or naval forces of the United States, under any article of the treaty for any purpose, unless in any particular case the Congress, which under the Constitution has the sole power to declare war or authorize the employment of the military or naval forces of the United States, shall, in the exercise of full liberty of action, by act or joint resolution so provide.

The United States agrees to use its friendly offices, when requested so to do, under the provisions of Article X, in assisting to procure a just and peaceful settlement of territorial or political controversies between nations, or to protect any member of the league from external aggression, but it does not assume any obligation to use its military or naval forces or its financial or economic resources for the purpose of intervention in the controversies or conflicts between nations, or to protect the territorial integrity or political independence of any nation under the provisions of Article X, unless in any particular case the Congress, in the exercise of full liberty of action, and in the light of full information as to the national justice and human right involved, shall by act or joint resolution so provide.

THE philosophy of political party method is often past understanding by an ordinary citizen. As noted elsewhere in this issue of SEA POWER, Senator Owen calls attention, with unsparing frankness, to the inconsistency of his Democratic colleagues who voted against the proposal printed on the left, which is the Lodge reservation to Article X of the Versailles treaty, and voted for the proposal printed on the right, which is a substitute offered by Senator Simmons.

The second proposal sounds the more gracious, since it expressly avows a readiness to use the Nation's "friendly offices" to compose international, territorial or political quarrels, but the avowal is really not necessary, because membership in the League of Nations would in itself be a solemn commitment to such a purpose. The main point of both proposals is the refusal to employ the military or naval forces or the economic powers of the United States in any international quarrel unless in any particular case the Congress shall so provide.

The whole controversy about Article X revolved around the question whether the United States should be committed to participate, upon the advice of the League, in protection of the political and territorial integrity of members from aggression, or should expressly give notice in adopting the treaty that it will not participate in such protection except by action of Congress in any particular case. The President and the advocates of the original covenant have contended that no express notice was necessary because in no case could the United States go to war or engage in economic boycott without action by Congress, and that this fact is fully understood by the principal powers signatory. Advocates of reservation contended that the adoption of Article X without reservation would commit—morally if not legally—the United States to go to war at the command of the League and that it would not be wise or frank to ratify the treaty without making perfectly plain our constitutional limitations and our traditional policy. Volumes have been spoken and written on the subject, but it may all be reduced to the simple form: Shall the United States commit itself to make war or engage in economic boycott at the behest of the League of Nations, or shall it reserve the right to make war or engage in boycott only by action of Congress?

By the text of both expressions here printed the reservation is made. There is a difference between the words of the texts, but there is no difference in the effect. Yet upon this distinction the Senate refused to ratify the treaty because a number of Senators who voted for the second would not vote for the first.

And such is the issue that partisans would submit to a solemn referendum of all the people in the next general election. This may be good party tactics, though we doubt it, because we believe the people have the discernment to perceive that the issue thus offered is one of tweedledum and tweedledee, and that they will vote for members of Congress and for President upon other and real issues that may arise.

An issue might be made of the covenant as originally drawn and a covenant with reservations, but the issue as presented by the votes on these two texts of the same reservation is no issue at all but a mere trick of terms which is too palpable to be seriously considered by an intelligent body politic.

THE chief point in the case against the Socialist members of the New York legislature was the provision of the Socialist Party constitution, to which they subscribed, that "any member of the Socialist Party, elected to an office, who shall in any way vote to appropriate moneys for military or naval purposes or for war shall be expelled from the party." The New York constitution, which the Socialist legislators took oath to support, requires the maintenance of a militia, and the Constitution of the United States, which they likewise took oath to support, provides for the maintenance of an Army and Navy. Plainly the Socialist members could not be faithful to their party constitution and to their official oath. Is a man to be allowed to be a member of a legislative body with the purpose to deny to the government the means of its maintenance? As a private individual he may advocate a complete revolution in the principles of the government; as a servant of the government he cannot do so without belying his official profession of fidelity.

THE sixteenth annual report of the Navy Relief Society, of which Rear Admiral Charles O'Neil is president and Captain E. J. Dorn is corresponding secretary, is a most creditable exhibit of emergency aid to the families of officers and enlisted men of the Navy. During the year 1919 the Society paid to beneficiaries $69,368.16. Included in the beneficiaries for the year were 33 families of commissioned officers, seven families of warrant officers and 509 families of enlisted men. More than ten times as many families of enlisted men than officers were aided. The Society's affairs are reported in excellent condition.



EDITORIALS

The Secretary's Dalliance

IN THE great volume of testimony presented to the Senate Committee on Naval Affairs investigating the Navy Department on the charges by Admiral Sims, nothing is more revealing of the controlling factor in the Secretary's administration than his cablegram of June 10, 1917, disregarding a recommendation by Admiral Sims concerning convoys. The Secretary said:

"Department considers it essential, on account of the present sensitive public opinion, that the escort orders for the first convoy, already issued, be executed by our own destroyers. The soundness of your recommendations are recognized by the Department."

"On account of the present sensitive public opinion," the Secretary of the Navy charged with a mighty responsibility disregarded sound tactical advice.

The Secretary paid his countrymen a poor compliment. We do not now know what particular mood of public opinion he had in mind at the time—possibly some hysterical newspaper or Congressional comment or street chatter. But we do know that at no time from the first to the last of the Great War did the great body of citizens of the United States entertain, much less assert, opinions on the strategy or tactics of war. Of course, there were superficial persons who made a noisy clamor of comment, favorable or unfavorable, according to their whim or their partisanship, but the mass of the people made no pretense to military knowledge and cheerfully accepted as the best whatever was done by those in command. Retired officers of the Army and Navy and civilians with military knowledge, who had reason to doubt the wisdom of any given movement, contrived to convey their views privately to those in authority, but generally refrained from public criticism.

There was never a time after we got fairly into the war when there was any sensitiveness of public opinion that any administrative officer might not have safely disregarded in the full confidence that the maturer judgment of the people would vindicate him.

In June, 1917, SEA POWER said:

"In the trial ahead of us there will be many occasions, no doubt, when the people at home will not understand and when they may be tempted to criticize after the manner of democracies always and everywhere. In normal times such criticism is wholesome; even in critical times it is not amiss if it be tempered with patience as of a principal properly inquiring why his agent is pursuing a given course. But it is important, indeed vital, for our members of Congress to realize that the people of the United States will cheerfully approve any action which a man of ordinary intelligence may be able to justify to their wisdom. And it is a reflection upon the people of the United States for a Congressman to assume that they will not see as clearly as he sees, or that they will not be as true as he is in any test of their judgment or their patriotism. In a time like this timidity of statesmanship is almost as base as cowardice on the field of battle. We, the people, will excuse errors of judgment; we will not excuse hesitation. We will follow courageous and intelligent leadership, but we will damn leaders who look back or who wait for us to push them on. When our liberties are imperiled, when we are at war, we know enough to understand that we must waive the ordinary processes of democracy and must behave as soldiers called to battle. We do not ask to be consulted in problems of strategy; we ask only that our commanders lead us safely, and if they are unwilling to lead upon their own responsibility we shall insist upon other commanders."

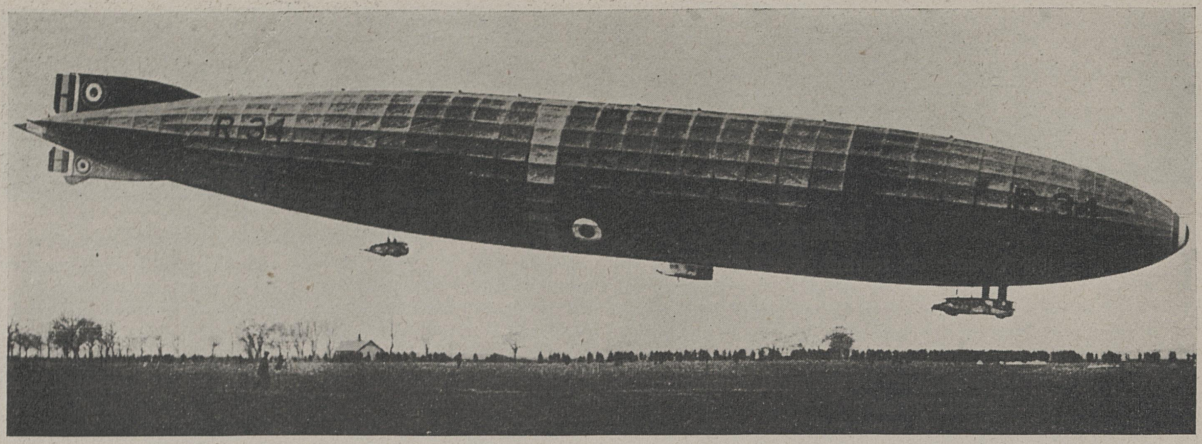
That was somewhat of a prophecy. The people exhibited precisely that spirit to the end. We are just now discovering that the Secretary of the Navy wavered in his duty and quailed before the appearance of a public opinion which had no real existence. It was our good fortune, not the Secretary's courage or wisdom, that brought us through the first few months of crisis, and it was the perseverance of wise naval officers acting in spite of the Secretary's dalliance that finally got the Navy to functioning.

PERSONAL and partisan animosities aside, the open-minded citizen who reads the testimony in the naval inquiry on the Sims charges is compelled to conclude that there has been much fault in the administration of the Navy Department. It was merely good luck that circumstances did not require fighting immediately upon our entrance into the war. We had some worthy battleships, but we were sadly lacking in supporting ships, in material and in trained men. If the conflict had come upon us suddenly as it came upon France and Great Britain we would have been overwhelmed. What is the use of ships without ammunition, auxiliary equipment and trained men?

IT is highly important that naval bases be developed on the Pacific—not sufficient merely for half the fleet but for the entire fleet—but at the moment the most important need for naval efficiency is the personnel. Naval bases, like battleships, are useless in winning a war without trained men. It takes nearly as long to develop a force of fighting men as to build a fighting ship.

THERE can be no question that the President is absolutely right in his letter to Senator Fall on the Mexican situation, in holding that the Executive alone is constitutionally charged with "the initiative in directing the relations of our Government with foreign governments." Unhappily, the President's actions in the European peace treaty situation do not indicate an equally clear conception of the Senate's constitutional prerogative in completing international conventions.

THE murder of soldiers by members of the I. W. W. at Centralia, Washington, was a shocking tragedy, but like many other sacrifices it has brought some compensation in arousing public opinion to the necessity of cleaning out nests of anarchy. The question arises whether we do not need new definitions of "treason" and "making war." Advocacy of destruction of the Government is something more than the exercise of free speech, and shooting down soldiers for the purpose of terrorism is something more than murder.



International News Service.

R-34, Model for the airship now under construction for the United States Navy. Ship is being built in England and will be flown to the United States.

Separate Air Service Unwise

Would Hinder the Efficiency of Both the Army and the Navy

By LIEUTENANT CLIFFORD A. TINKER, U.S.N.R.F., A.S.A.

FOR the last eight months a strong effort has been made to force an issue with respect to our air forces by creating through Congressional action a separate air force which would swallow up the air forces of the Army, Navy, and Post-office Departments; and arguments have been advanced of alleged advantages, both economical and operative, following such a union, but which are apparently born of a slight acquaintance with the objects and accomplishments of military and naval aviation during the past few war-shattered years, and the plain lessons which point out our course for the future.

Where these arguments apply to naval aviation they exhibit particular unfamiliarity with that branch of the service. This is due in a measure to the fact that prior to the war naval aviation was underdeveloped; and during the war, because of military necessity, its activities were unpublished, its story untold.

The time is here, however, for naval aviation to be brought before the public and its rightful place in naval activities defined. Further, in order that the general public shall be fully cognizant of the fallacious arguments which are being used and which, if accepted, would seriously endanger the efficiency of one of the most important adjuncts of our Navy, and with a view to giving general illumination on the subject of naval aviation as opposed to a separate air service, the following paragraphs are written.

We have seen what superhuman effort was able to accomplish, and, at the signing of the armistice the potentially magnificent condition of the air forces of the Army and Navy backed by a patriotic and adequate air craft industry; we have also noted the tremendous cost; we know money was spent like rain—the "speed route" is a costly one. Howbeit, our nerve-stretching experience in the gigantic promotion scheme had just begun to bear fruit when peace arrived; it gives us a nightmare to think of what would have happened had we been fighting single-handed. Did this supreme illustration of the evils of easy-going indifference and unpreparedness jar our sensibilities? Not a solitary "jar." With the armistice, those who had dictated or controlled our military and naval policies before the war came into their own again; like the Duke of York, we "marched our men right up the hill and marched them down again." The downward trip was made in "double-time."

If we had exercised the fore-sight of a common red ant, at the end of hostilities, we would have sorted from the planes and material on hand the most advanced models; we would have retained a sufficiency of the most capable officers and men—there are just two aces remaining in the Army air forces; we would have played fair with the best equipped and financed aircraft manufactories; we would have taken into account the post-war needs of aviation; and we could have, had we been so inclined, taken heed of the efforts of our allies and our enemies to utilize their wartime aircraft organizations for peace-time employment and future defense; had we have done these things, we would not now be down and out and at the very bottom of the ladder frantically composing bills to be made into laws compelling us to spend more millions in building up what we so quickly tore down and threw away.

Where has the record in swift demobilization brought us? And what was done during that time when planes and material were scrapped, burned, or sold for a song, and when men were actually kicked bodily out of the service? To answer this would fill a five-foot bookshelf; suffice for us to call the short roll of personnel on active duty and count the few planes on hand and now doing service.

Today scattered along the Mexican border is the remnant of our great Army air force; a few men stationed about the country should be added, but the grand total of personnel falls below twelve thousand, while equipment is so depleted and out of date that Army officers who know tell us that we are not now possessed of sufficient planes and accessories to conduct an offensive should it be necessary for the United States to send an army across the border.

The Navy is limited to six heavier-than-air stations within the continental limits of the United States, although lighter-than-air stations, the schools, and the experimental station somewhat enlarge the list. A large part of the seaplanes and material left on hand at the end of the war, while in storage and requiring extensive changes and repairs to place in a serviceable condition, may be considered available; the personnel, however, has shrunk to about forty-five hundred officers and men. The training activities of this small force, certain matters relating to the purchase and manufacture of rigid ships of the "R-34" type—two only—together with the bright flash occasioned by the trans-Atlantic success of the NC-4, are the only evidences of real life yet left in the Navy's air force which functioned so proudly and fought so gallantly during the war.

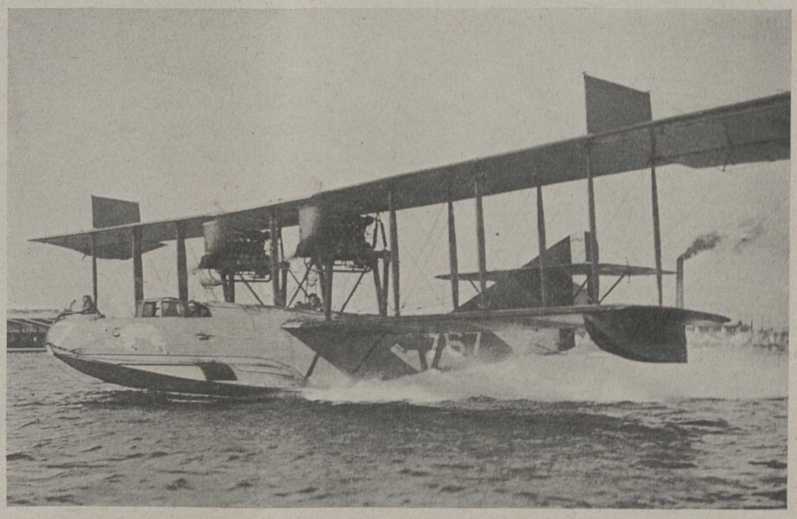
The aircraft manufacturers are turning their factories into toy shops and what not, or are engaged in liquidating to get their funds clear for other lines of endeavor, while a few, the very oldest and strongest financially are hanging on, month by month, hoping for better days.

It would seem that the final blow had fallen when Congress refused a few weeks ago to supply funds for an extension of the aerial mail service. This act, supposedly one of economy, is in line with the very meagre appropriations made for the Army and Navy air forces and is political in its significance, presaging an early attempt to line up and pass the bills creating a separate Air Department, comparable to any other department of the Government headed by a cabinet officer, or an official reporting directly to the President. Representatives Curry and Hull and Senator New, with broad-minded intentions but narrow-minded advice, have each framed bills for establishing a separate air service, with the evident purpose of legislating into equal prominence with the Army and Navy a minor tactical arm. For, despite the desirability, importance, and tremendous possibilities of a large and well-balanced air force as adjuncts to the Army and Navy, aircraft have not yet become preëminent in warfare and they are not likely to be a supremely crucial factor in future wars for many years to come.

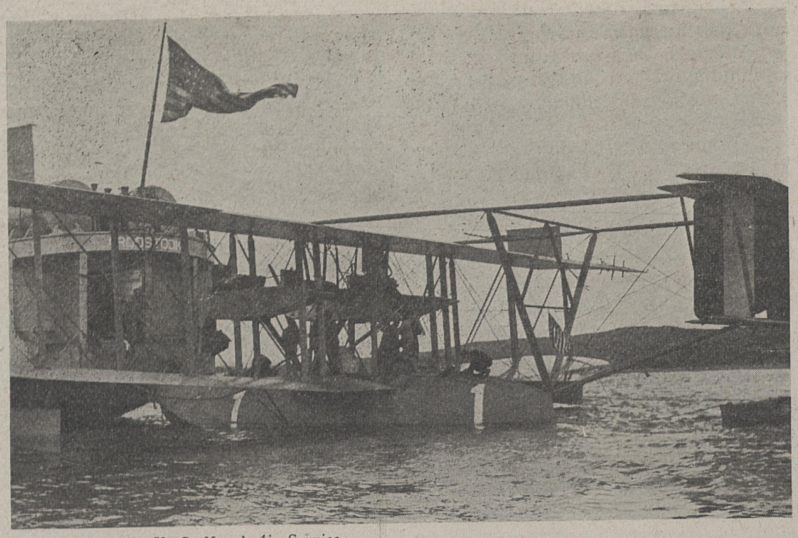
The development of aerial warfare has not changed military or naval strategy in one single particular, air forces bearing the same relation to campaigns and major and minor operations as do artillery and the tank on land and the submarine and destroyer at sea. Control of the air is very necessary, but is hardly more important than a preponderance of artillery or a screen of destroyers or overwhelming gunfire; for a superior force with all the death-dealing devices known to man is helpless before a smaller adversary when the adversary is directed by the better strategist. Notwithstanding the invention of gunpowder and its deadly successors, and all the mechanical contrivances of the ages, battles are still won by the infantryman, the soldier on foot, just as in the days of the Great Macedonian, and when the Romans stalked about Europe. Despite the torpedo, the destroyer, and the submarine, the dreadnought is still the main reliance of any nation that depends upon seapower for its defense. Aircraft has, of course, brought to the front many new and menacing problems, but they are tactical and are really problems of coördinating mechanical agencies with existing war machinery.

Thus extravagant claims on the part of the advocates of a separate air service impute to aircraft a deadliness and annihilating power beyond the facts borne out by the experiences of the great war. Aircraft is now being answered by the anti-aircraft gun, and air fighting has become a question of aircraft against aircraft; the real facts in the case being that aircraft, like all new weapons, is rapidly forcing into use rival agencies to check its supremacy as a destructive and irresistible military asset. Without going into the refinement of operative details or summing up the important functions of aircraft as a military weapon, our own experiences in the war, including production and the expense attending, is argument enough against those over-zealous enthusiasts who see the air darkened by offensive invading fleets of airships and airplanes descending on our great cities and productive centers with devastating bombs and deadly gases. The invaders not being able to bring hangars and machine shops with them can establish no bases for operation, and their activities would be without military value for the very lack of support; the invasion itself depending on the probability of any people possessing sufficient money and industries to create an adequate air force for the purpose. Obviously, if we do not build an adequate air force with which to supply our Army and Navy to supplement our defensive program, any little two-by-twice air force can gain a position above our territory; one does not need to be an alarmist to admit this truth, or an expert in aeronautics to see it. This, however, does not change the facts one iota; the present development and the outlook for the future scope of aircraft in the military sense do not warrant a separate department equalling in rank and importance the Army and Navy Departments for a long time to come.

The bills now under consideration, drawn with the usual "get-it-all" thoroughness of the legal profession, and, in this case, the additional advice of prejudiced beneficiaries, have included in the separate service "round-up" a complete inventory of all planes and equipment now in the hands of the Army, the Navy, the Marine Corps, and the Postoffice Department, including training fields, air stations, naval repair and mother-ships, unexpended funds, and the air personnel of all the services. This will result in the Army, which outnumbers all other units of the proposed amalgamation, assuming the prerogative of dictating the lines of development and operation



H-12, Seaplane. Photograph shows plane "on step" just before leaving water.



Official Photograph, U. S. Naval Air Service.

NC-1, at Trepassey, Newfoundland, filling fuel tanks and tuning up for a start across the Atlantic. The Aroostook, mother ship, was a mine layer and took part in the laying of the great North Sea Mine Barrage.

of the combination, the only merit in the Naval, Marine, and Postoffice units being that of contributers to an increase in rank among the present Army air force officers or making permanent the high rank which those officers now enjoy. When the Army, the Navy and Marine Corps, or the Postoffice Department are in need of aerial service or supply they will be in the position of supplicants to a service not only their equal legally, but also one which, if the wild statements of its advocates are to be taken seriously, intends to "go it alone."

Herein lies the great danger of such a separate institution. The very fundamentals of strategy, the first principles of military success, the factor of safety for military forces, are dependent upon the absolute control by the commander-in-chief of all the elements of his forces; there can be no strength to his chain greater than the weakest link; he must have unequivocal obedience, instant and complete, from all subordinate elements of his command; the life of a nation or the continuance of civilization may depend upon it. Accordingly, the direction of the air forces of an Army must be left in the hands of the Army authorities; they are the court of last resort in control of aircraft development, manufacture, and operation insofar as they have use for such an arm—this is axiomatic.

These truths are even more applicable to the Navy than the Army, inasmuch as the work of aircraft with the Navy is more specialized than the air service ashore. The particular problems of the naval aviator call for a knowledge of nautical affairs, intensive training in difficult navigational requirements, a deep insight into the tactics and strategy of naval warfare, a complete knowledge of surface and undersea craft and their operation, and it is not possible to remove from the command and direction of the Navy the training and operation of its own air force. The lessons of the war have brought home to us the imperative need of a highly trained and adequate naval air force working with the fleet on the same basis as any other unit, such as the scout cruisers, and unless the admiral commanding has complete and unhampered control of such a force its value is impaired, and, in the event of a major engagement, might well mean overwhelming ruin. The Navy is the country's first line of defense; any relaxation of vigilance, any outside interference with its efficiency, any adjuncts with a string attached are to be avoided as the very devil himself.

Benedict Crowell, Assistant Secretary of War, and a numerous Mission visited Europe and came back as they went, advocating a separate air service for this country. Prejudiced before going, the Mission interviewed only those who were in known sympathy with the idea, although, unavoidably, they met two men who were opposed, Admiral Beatty and the commander of the Seaplane Carrier *Furious*. It is an insult to our own intelligence to take further aeronautical advice from European sources; we spent around one billion dollars on such advice during the war and until we threw the essentials of that advice overboard and struck out for ourselves we made slow headway. During the war the European air service officials were our allies and naturally gave us the best advice they had in their heads; now, while they are our friends, presumably, they are also our rivals in the "air game" and a "gift horse" from such a source will need more than a casual glance in the mouth. The Crowell Mission must have gathered much information which will be of benefit to the purely commercial side of aircraft production and development, and information so used will undoubtedly be of immense value, indirectly, to the Army and Navy; but the information brought back which is primarily of a military nature and having to do with that particular phase of aerial activities should be subjected to very minute and careful scrutiny—it came too easy.

It is particularly significant that Admiral Beatty and the Captain of the *Furious* should be dissenters from the view of the Royal Air Force; all is not well in that quarter; the Royal Navy has had short shift and the morale of the naval section of the Royal Air Force is at a low ebb; interested naval officers in this country should take notice and heed the warning. The strange thing about the whole aircraft situation abroad is the fact that our whipped and beaten enemies are still years ahead of our allies with both lighter and heavier-than-air development.

The great cry of the single service champions is "economy;" unite for economy; save the country and the taxpayer money. While sounding good to the ears of the unthinking, there is no real economy in a separate air service today. The Army is complaining that all the aircraft on hand in their air force is obsolete, no construction worth the name having been undertaken since the armistice, and this is only sixteen months since that day and date. If the development of aircraft is changing types so fast that hundreds of millions of dollars worth of machines must be scrapped yearly, the answer is—cut down your production until the stabilization of design. Why is it necessary to form a huge and expensive organization and build thousands of planes to become immediately out of date and thrown away? War is not imminent or staring us in the face. Should the converse be true our enemies will not be polite and generous enough to wait for the proposed separate organization to be built up and become a going concern.

In view of the fact that aviation is now dealing with a peace-time program, which is one of development and experimentation rather than quantity production, the purchasing functions of the Army and Navy, working

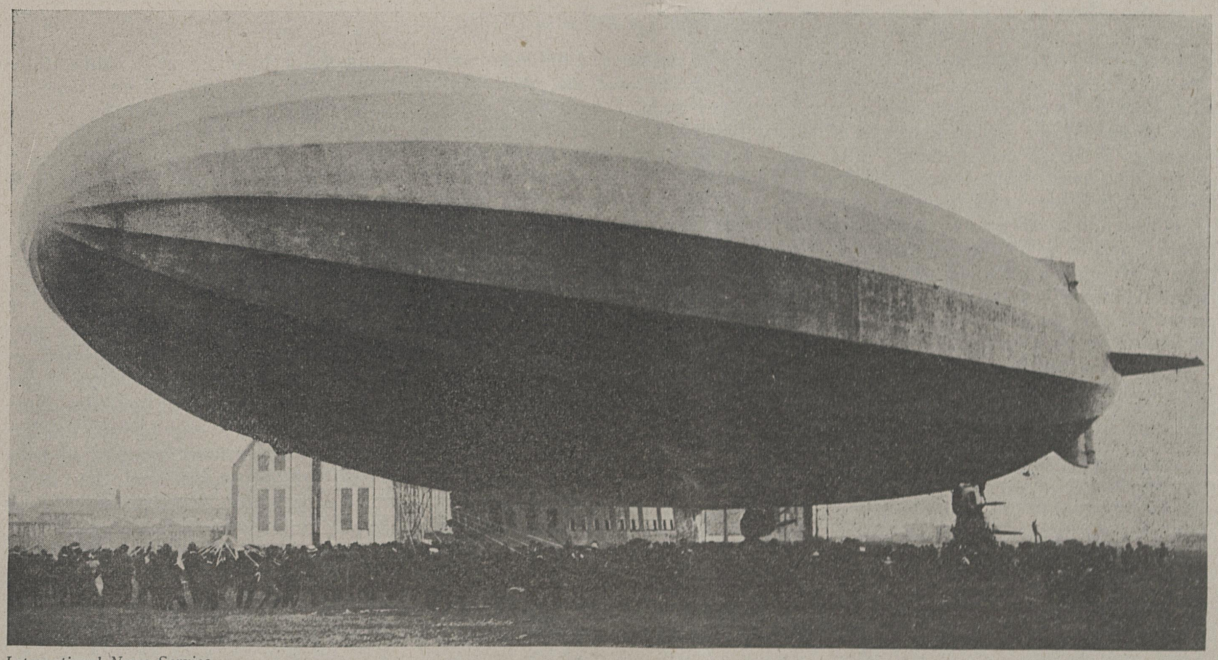
in harmonious coöperation with each other and the manufacturing interests of the country, are entirely adequate and particularly capable of contracting for the needs of military and naval aviation with thorough-going economy and dispatch. The purchasing sections of the Army and Navy are conducting aviation matters in addition to other highly important departmental duties which would necessarily continue even if the aviation duties were withdrawn. This being the case, a third purchasing power would in itself be a wasteful duplication.

Now where is the economy in a separate air force which starts business, as called for in some of the bills now pending, with a Secretary, an Assistant Secretary, one major general, 15 brigadier generals, 165 colonels, 300 lieutenant-colonels, 665 majors, and 3,850 officers of the lower grades with an enlisted force of 50,000, and, in accordance with Army testimony, no planes and no chance of securing planes for eighteen months or two years? If there is economy secreted somewhere in this contemplated organization there is very little modesty, judging from the list of high-ranking beneficiaries. It should be noted that pilots are not to be commissioned officers, but are to hold warrants, and there are to be 2,000 of them in addition to the list enumerated above!

Another feature in connection with a seperate air service and one productive of deplorable consequences would be the concentration of development and experimentation in the hands of a few officials, thus curtailing competition and slowing up progress, a course which would undoubtedly discourage private enterprise to a point calamitous to the future of the aircraft industry of America. The greater the number of intelligent minds concentrated on a problem the more rapid and complete is its solution. The whole field of aviation will be aided by coöperating with and assisting private enterprise, and the departments of the government using or undertaking the use of aircraft will be benefitted accordingly, and efforts should be made not only to leave aircraft manufacturing in the hands of private concerns but also to have the Army and Navy coöperate to the fullest extent with the builders for the benefit of the general service and the national defense.

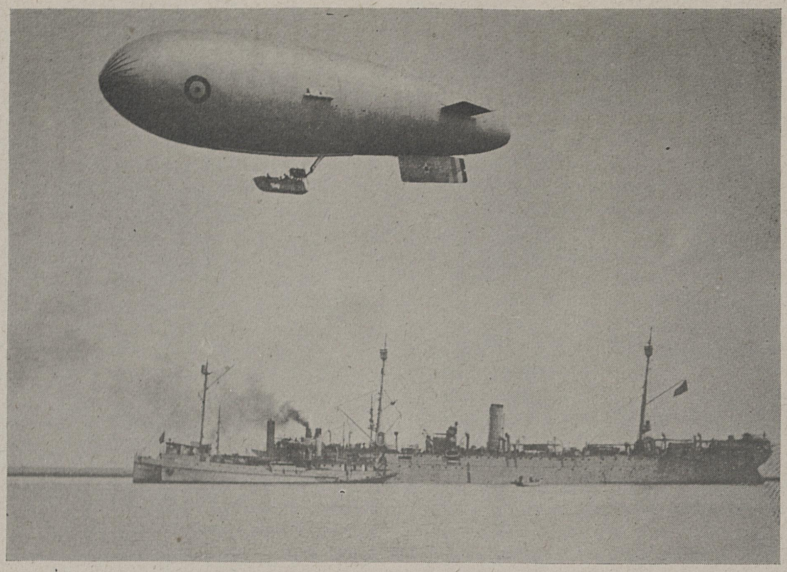
A concensus of the opinions of a great majority of naval officers, concurred in by a majority of army officers, outlines a legislative scheme which ensures economy and at the same time provides for expansion as aerial equipment develops and, as is usual, sober judgment finds a solution when hysterical plans fail. The remedy for the present situation is about as follows:

Let the Army aviation officers cease their labors in advancing a series of bills for their own aggrandizement and occupy their time in coöperating with the Navy in establishing a sane air policy for both departments. Let Congress at once provide sufficient funds for the Army, the Navy, and the Post Office Department to engage in a program adequate for the defense of the nation and the transportation of important mail and the legitimate use of aircraft by other governmental agencies. Then a bill may be made law which will provide a bureau or agency, whatever called, with authority to lay down the rules of the air for commercial routes, license pilots and manufacturers, inspect plants and planes and otherwise safeguard the public and its property, determine the extent to which governmental aid shall be applied to the establishment of landing fields and repair centers and extend the aid so determined, and cooperate with the Army and Navy in deciding how far the government shall control types and provide the equipment of aircraft in commercial use against that day when we are called upon to mobilize our aerial resources against invasion. And, further, clothe this new agency with the authority to combine under its management the procurement of all governmental aerial equipment of any nature when it is determined by actual use that a stable design has at last been developed which can be put under quantity production without danger of being sent to the scrap heap as soon as produced. Then the standardization of planes, airships, and equipment can be considered in abolishing the strictly



International News Service.

The German airship "Bodensee" the most advanced streamline designed ship in the world, three years in advance of the "R" type used by England and building for the U. S. Navy. Germany is still ahead of the allies in aircraft development.



Dirigible Z-23 over U. S. S. Rainbow, Cape May, N. J.

aviation supply offices of the Army and Navy and turning over to the bureau their functions, and only then can it be done with economy.

There is no question that the industry, at the present moment, is looking to the Army and Navy for its very life, and must continue to do so until well planned and financed commercial projects can be undertaken. So then, Congress must "play the game;" must quit choking the Army and Navy air services by withholding appropriations vitally needed, in an attempt to force the morale of those services into such a state that the personnel will acquiesce in the immediate adoption of a separate air force as a last resort. We must award needed contracts at once; we must have a certain number of aircraft. And by crossing the palm of industry with the silver of encouragement that industry will once more spring to the task of supplying military and commercial aircraft for all the various needs of national defense and at the same time develop all the foreign trade that the most barter-loving souls could wish.

With the return of peace-time pursuits, governmental economy is not only desirable, but a necessity. Nevertheless, we must give scrutiny unmeasured to all so-called economic movements in order that in the guise of efficiency and economy we do not allow our agencies of national defense to be impaired. A combination of our aerial units into a separate air force will furnish a number of men with high rank, create another cabinet officer, and realize the ambitions of a number of self-seeking officials; in the end it will reveal to the taxpayer, wasteful duplication of effort, quantity production not now needed, interference with commercial exploitation and inventive genius, embarrassment to the Army and Navy, and a corresponding weakening of the national defense.

Economy In Preparedness

[*Representative Kahn in Debate*]

SOMETHING has been said here about the cost of war. This war cost us in 19 months, with our loans to the Allies, $33,000,000,000, a sum that is simply staggering. The gentleman from Mississippi (Mr. Quin) and other gentlemen on this floor have called attention to the great burden that is placed upon the taxpayers of this country. That burden is placed there because we were unprepared. If we had been prepared, we would have avoided the burden. And it is a strange thing that in war the burden falls heaviest upon the masses. They are the men and women who furnish the soldiers. They are the men and women who ultimately pay the taxes. They are the people who suffer most of the hardships. The rich man can generally make provisions so that the burdens fall less heavily on his shoulders; therefore, it is for the poor people of the country that I speak. I want their sons protected against war, and the only way to protect them against war is to have this country prepared against war. I apprehend that no nation and no combination of nations will ever attack the United States if we are ready to defend our rights. You find the same thing happening in everyday life. See the highwayman who lurks for a likely victim. He stands behind a tree or a wall looking for a wayfarer to come his way. When he sees a man who is able to take care of himself, to defend himself, he lets that man go by; but when an individual comes along whom he thinks he is able to worst in an encounter, that is the man he attacks, robs, and frequently seriously injures or even murders. * * *

Some talk has been indulged in on the floor during this debate about universal training. I do not apologize to anybody in this country for my attitude on that subject. I do not intend to go into that question at this time. I hope before this Congress goes out of existence I will be able to present to the House a thoroughly worked-out system as a part of our military policy. I shall try to defend that matter when it comes up by itself and give the House all the information that I have been able to glean upon the subject. I have given it some study and some attention. I am satisfied that if the Congress of the United States, learning a lesson from this war through which we have just passed, will train our young men, we will not have any occasion to fear for the future.

I think the gentleman from Pennsylvania (Mr. Crago) spoke yesterday about sending young men to the trenches or to the advance lines who had had only three weeks' training. I believe Colonel Donovan testified before the Senate committee that some of those men who came to his organization as replacement troops had even a less period of training than that. Such a condition of affairs in a great Republic like ours is indefensible.

People speak of the cost of universal training. I have the figures from the War Department showing that it will cost $130,000,000 a year. It will take us 200 years to expend in universal training a sum equal to the great total of $33,000,000,000 that we spent in 19 months of war.

Introducing Cedar Rapids

A New Idea for Stimulating Recruiting in the Navy

By FRANK F. MILES

A DESTROYER crew from Cedar Rapids, Iowa!

Yes, it is only a dream now, March 16—a dream of several former service men, but it will be a reality if the Navy Department approves the recommendation of recruiting officers on duty in Iowa.

The letter that follows explains:

Cedar Rapids, Iowa, *February* 25, 1920.

SHIPMATE:

A bunch of ex-gobs met last Saturday afternoon to talk over getting up a crew of Cedar Rapids men to man a destroyer (one of the new ones) and we decided to go ahead and organize. We need a couple of men of your rating and would like for you to get all the facts from the boys up at the Navy Recruiting Office.

The Navy Pay Bill was passed by the Senate February 3d, 1920, and will soon be signed.

The City of Cedar Rapids stands ready to donate a silver service to the boat, also some victrolas, provided it be manned by Cedar Rapids men.

Now you know that the uniform is usually dungarees on a destroyer and that more liberty is given than on a big ship. So think this over and drop in any time this week with any suggestions you may have, for you may be able to help us out. Come and help us even if you are not fixed so you can ship over.

TIP O'NEILL,
Ch. Yoeman, Ship's Writer.
CHUCK ANDERSON,
Ch. Boatswain's Mate.
BILL SEARS,
Blacksmith 1st Class.
R. D. MEANEY,
Mach. Mate 1st Class.
G. D. FOX,
Gunner's Mate 1st Class.

Hats off to the Cedar Rapids ex-service men, and to the citizens who are whole-heartedly supporting their plan.

The writer made the acquaintance of a traveling man from that city at a wrestling match at Norfolk, Va., more than a year ago and, during the intermission between falls, he met three Cedar Rapids gobs. He wrung their hands, pounded their backs and bought them drinks (soft) and smokes at a store near the hall.

"Patriotism is 'rampant' in our town," he said.

As I knew something of Cedar Rapids, I knew he spoke the truth. and this idea advanced by some of Cedar Rapids' ex-gobs is further proof. Perhaps by the time this story is published the Department will have approved the plan. If it is not approved it should be, and the Department should encourage every other city in the United States to emulate Cedar Rapids' example.

Cedar Rapids' population is about 50,000; not a large city but a "live" one. Anybody who knows anything at all about Cedar Rapids would not hesitate to predict that, if a destroyer is manned by Cedar Rapids men, the citizens will do everything within reason to show their appreciation of the sailors and of the Department for so honoring the city.

Cedar Rapids is not the only city of its size in the country that could furnish, and spare, enough ex-service men and new recruits to man a ship. Neither is Cedar Rapids any more patriotic than hundreds of other cities, somebody will say. That may be true but it looks as though Cedar Rapids has the "edge" right now.

"This is no time to talk of patriotism in connection with enlisting; we are at peace now," an educated woman said to me last night when I told her of what is being done in Cedar Rapids.

Her gray hairs, her sex, the occasion, and the fact that her words jumbled my thoughts, caused me to end the conversation. She is the mother of two boys, both of whom would better themselves by enlisting, but can any one imagine either of those lads ever going into the Navy, Army or Marine Corps unless war is declared?

No true American favors militarism—Prussianism. But an American who takes an international view of conditions knows that, until people are raised to a much higher plane than they now occupy, we must be prepared to defend ourselves by force, if necessary. I do not think that young men should be compelled to leave their homes for a period of months or years and train and live as professional soldiers and sailors. But I do believe that we should have some system of universal military training, conducted through the schools or colleges or the militia organizations. And I believe that every boy in this country who is casting about for a career can do nothing better for himself than to enlist in the United States Navy.

More wars are inevitable. America has a position of leadership and dominance to maintain in this world, and if she does not maintain that position she will fall probably within the life of some of us who are still under thirty. America is God's opportunity for the future of mankind, and it is up to this country to lead other nations onward and upward with us. We cannot do that if we place ourselves in a state of weakness so that some other nation with selfish, hateful ambitions can topple us.

"There was a time when youths in their ignorance were so subservient to capitalism that it was easy to induce them to throw away their lives in the Army or Navy," a well known radical is quoted as saying in a speech recently.

He is still at large, too.

It is interesting to note in this connection that Cedar Rapids is in Iowa, the state which has the lowest per cent of illiteracy of any of the states under the Stars and Stripes. Iowa is wonderfully prosperous. Opportunities are everywhere for a young man, and there could be no finer tribute to the patriotism of her sons and to the military service than the fact that Iowa sends so many of her boys to the Army, Navy and Marine Corps to help maintain the organizations upon which the strength of our country lies.

May I offer a few suggestions on recruiting?

A recruiting method much in practice is for officers and men from a battleship to tour a state for which the ship is named to enlist men for service on that ship. Undoubtedly the method is effective. Everybody who takes pride in the state in which he lives cannot but feel a particularly keen interest in a warship that bears his state's name.

This idea could be carried very much further, and the Cedar Rapids men have indicated the way.

Why not man a battleship with men, everyone of whom, from commanding officer to youngest seaman, would be from the state whose name the ship bears?

Impossible?

Certainly not; in fact it would be no more difficult than to man a ship under the present system.

The cadets at Annapolis are from all the states; the Annapolis graduates who are now commissioned officers represent every state in the union; the mustangs are as representative as the academy officers.

Let us suppose that the U. S. S. *New York* is manned with a crew, every one of whom is from New York State, and that the new U. S. S. *California* has none save Californians in her ship's company.

Can't you see how such an arrangement would spell efficiency?

Let us suppose that a fleet of, say fourteen battleships, representing as many states, is manned by men from those states.

Unlimited possibilities!

Anybody who has ever been a sailor can tell how the sailors argue over the merits of their native states, and similar arguments are heard in the ward rooms; good natured, of course, but spirited nevertheless. No one ever becomes so much of a cosmopolite that he won't defend the state of his birth, if he has any red blood in his veins.

When I was a recruit at the San Francisco Naval Training Station early in 1917, there was one company that attracted no end of attention because of the splendid physiques of the men.

"Where you from?" I asked a rangy six-footer, who was a boy petty officer.

"Texas," he replied proudly, "and every man in this company comes from Texas."

"Wouldn't a ship's company of Texans make some company?" commented a sailor in our party.

"Oh, I don't know," put in a Californian, "we have some real men in this state, too, men who are just as good as the Texans."

That started an argument, and California, Texas, Iowa, New York, Washington and Maine were all heard from. The only reason all the other states were not represented was that none of their sons happened to be present at that time.

Recruiting officers tell me that they encounter trouble getting publicity. That is easily understood, with paper prices apparently after altitude records, and editors groaning under the loads of press agent stuff that is constantly heaped upon them. In fact the mails are so full of publicity matter and the editors have got so in the habit of heaving it into the waste basket that they frequently discard what would be good material for them. The average publicity man has little or no news sense and there are so many unworthy projects being boosted that worthwhile things suffer.

The Marine Corps is reputed to have the best publicity service in the country and anybody who knows the newspaper game knows why. A South Dakota editor hit the nail on the head when he said:

"I always read all matter that comes to my desk from the Marines, and I use most of it because what I receive invariably features a South Dakota boy."

New Yorkers are proud of the fact that a battleship is named after their state but they have no further interest. Anything that happens aboard the U. S. S. *New York* is of no more interest to the New York press than to the press of Arizona because every state in the union is represented in the ship's crew.

But, if when the battleship *New York* goes to sea, it were known by New Yorkers that every man jack aboard her was from New York it would create a real interest among the folks at home. The press of that state would feature that ship. The people of New York would want to know of her every move. And what would be true of New York would be true of other states.

This nation will soon have a battleship for every one of the states. It strikes me that this plan of manning the ships with men and boys from the states for which the ships are named would be well worth trying. It could not do any harm and, in my opinion, it would greatly intensify interest among people who now have no concern in the Navy.

The idea could be followed on through the cruisers and destroyers and other craft. If a destroyer is manned by a crew of Cedar Rapids men, whatever is done by that destroyer will always be news to the Cedar Rapids papers. If a cruiser were manned by men from one of the larger cities, that cruiser's every movement would find prominent space in the city's dailies.

I know that there are many ex-gobs in Des Moines, Iowa, where this is being written, who are not now even considering shipping over, who could be interested if they thought they could go to sea with a crew of Des Moines' men. The state of Iowa is honored by some splendid officers who have gone from here to the Naval academy, men who are capable of commanding the best ships in the fleet.

Of course this plan could not be worked out to the extreme limit, in other words, so that everybody who enlists could go to a ship named after his state or city, because of the size of the Navy. And, perhaps there would be a few men who would have no choice as to ships. Too, there would be men whose presence aboard a ship would work against the efficiency of that ship. Fear of transfer might work wonders with some who might be inclined to be refractory.

The Navy has done much for enlisted men and officers. But the officers and men have made the Navy. The Navy would not be what it is today if some of the best men ever born were not in Naval uniforms. The Government at present seems to be decidedly unappreciative of this fact. The result is that seemingly insurmountable difficulties in recruiting are meeting the recruiting officers.

A commander who has spent more than twenty years in the service said recently that he cannot save as much money now as he did when he was a lieutenant. His boy, now seventeen years of age, he says he will advise against choosing a Naval career, though until two years ago he had fondly hoped that the youth would follow in his footsteps because he comes from an illustrious line of Naval officers.

"I would resign," he declared, "if I thought I could make a decent living at anything else. But I could not. The Government has us older officers at its mercy, so to speak. We are helpless, and if we talk too much we endanger our positions with the powers higher than we."

"I should think," observed a civilian, "that you older officers would feel like joining the radicals when you see yourselves 'poorer' than some mechanics, and realize that after you have given the best years of your lives and practically cut away from all home ties, you are handled like slaves."

The commander drew himself up to his full height. His eyes flashed.

"Military men do not even consider the radicals," he said feelingly. "We are 100 per cent American. It is our training, instilled into us whether we attend the Academy or go through a training station and nurtured through every moment of our service. No one is a more bitter enemy of the I. W. W. and his kind than the American Naval officer or bluejacket. The thought of striking or joining the foes of our Government is repulsive. We are Americans, always, come what may."

The commander's words stirred all of us who heard. He was born in Toledo, Ohio. All of his adult life he had been away from his home. Like thousands of others in the Navy he was practically without a home, save for the home he had at that time in Boston, which was his ship's home port. Even now he may be abroad or has been forced to move his wife and son to Norfolk, San Francisco or some other port city.

Wouldn't it have been better for this officer if, when he left the Naval Academy, he could have been sent to

a ship manned by Ohio men? He did complain that he no longer had real interest in his native state. Wouldn't he have retained that interest longer could he have known that the civilians at home were more interested in him? But how could they be when he had apparently left the state for all time?

There is something tragic about an old service man's life. He is not a man without a country but he is a man without a state. And in this Government composed of forty-eight states, forty-eight separate sovereignties, therefore, forty-eight separate communities, a man without a state is in a sad plight. He may return after spending from thirty to forty years in the Navy but he is out of touch with everything. He is a stranger in his own community.

Many men who contemplate joining the Navy think of this and decide against the service for that reason. The plan suggested here, man the ships with crews taken entirely from one community, whether that community be a city, a town or a state, would go a long way towards removing this barrier and it would, I think, be a great move towards arousing interest in recruiting, both among prospective recruits and those who could not go into the Navy under any circumstances, the mothers and fathers, the aged, the other women, the physically unfit.

The peace strength of the Navy is fixed at 171,000 officers and men. Recent recruiting figures show that there are a few more than 100,000 in the Navy, leaving a shortage of seventy thousand. Of the men now in the Service only forty thousand are said to be experienced; the others are recruits. A recruiting officer is authority for the statement that the United States could not now man one division of battleships with experienced men. If war were to be declared now, of course thousands who saw some service in the late war would return. But how will it be ten years from now when thousands of us will have passed the age when we will be able to stand the rigors of war service? A man who stays in the Navy from youth until he is forty to fifty years of age is usually physically fit for any kind of sea duty, but not one civilian out of a hundred at that age could do it.

The reason the Navy made such a good showing in the last war was that we had several thousand highly efficient men to train the recruits, but if we had had more efficient men we would have made a greater showing. I firmly believe that fifty per cent of American citizens are either opposed to recruiting or are so averse to assisting in it that their aversion amounts to opposition. The feeling against the uniform that was so pronounced before the war is returning. Too many Americans feel that to join the Navy is stepping down. They are inoculating our youth with the same spirit and, unless something is speedily done to offset this influence, America will soon find herself in the pitiful state of unpreparedness we were in before the war with Germany. And we are now in danger of another war. Many will question that last statement and ask, "From what source?" Space will not permit me to discuss this issue in this article but I am prepared to argue it.

The Naval recruiting officers in Iowa are enthusiastic over the idea that comes from Cedar Rapids. I believe that if the Department accepts this plan and makes it worth while, many other cities will not sit idly and be outdone by Cedar Rapids. And, while the Department is putting the Cedar Rapids idea into practice, it would be well for it to consider the suggestion as regards manning battleships and cruisers with men from the states and cities for which these ships are named in so far as possible.

Let us hope that in the near future when a certain destroyer goes to sea, and possibly establishes a new record, a visitor in Cedar Rapids will hear a native say:

"Our ship did that."

Notice the "Our"?

And wouldn't the visitor's chest expand if he could retort:

"Fine, but did you read what 'our' ship, the U. S. S. ———, manned with Fresno boys did the other day?"

America's Gift to France

THERE'S a little wooden cross at the farther end of the Marne bridge at Meaux. The ancient village carpenter set it there by the roadside where the poppies grow, six years ago come September.

God, the simple peasants' tale is, marked the place with His finger in the sand, and smiled.

The German drive on Paris was to end there.

———

Not so long ago after all—that Battle of the Marne—is it?

Remember?

Your newspaper—the headlines screaming in big, black type—"Germans March On Paris."

Cruel—Relentless—Crushing everything in the way—On—On—On—To Paris—Liege in ruins—Louvain behind them a smouldering heap of ashes — Laughter — Rude soldier marching songs of the Fatherland—On—On—On—Forty miles — thirty miles—now twenty miles—now fifteen —the great gray-green Thing—Death and Desolation behind—Paris—the Heart of France—just a little way ahead.

Came they then to the River Marne —there where the cross is now—

And stopped.

And in all the years of the war no German boot advanced a single stride beyond.

———

"Papa" Joffre—the pitiful handful of French soldiers—the "little" army the Kaiser sneered at—the four days and nights while You and I watched beside with narrowing eyes.

Remember?

———

September, Nineteen Fourteen.

A good deal of water has passed under the bridge since then—all the world has marched.

———

Now—

Up in the valley above the bridge the French peasants are tilling their humble gardens—the soil of the battle ground is richer than it used to be—the scarred trees on the hillsides will be green again in the Spring, they say—the larks have come back and are singing in the fields—but—

RESOLVED, that the Navy League of the United States, through its Executive Committee, hereby approves "America's Gift to France," which, under the leadership of the Honorable Myron T. Herrick, is an undertaking to place upon the banks of the Marne a colossal statue in testimony of the appreciation of the citizens of America for the heroism of the soldiers of France at the first battle of the Marne.

BE IT FURTHER RESOLVED, that this action of the Executive Committee be called to the attention of our members through SEA POWER, and that they be urged to support this enterprise by their contributions.

The Navy League will receive and forward subscriptions.

Sometimes at sunset the river runs red, again.

We gave much to France in the war—our Sons—our Might—our Blood.

We owed her much.

Could we forget our debt to Lafayette—to the France who gave of her strength and her Faith when our Nation was born?

Could we forget those days at the Marne when France held "The Frontier of Freedom"—and hurled back the German hordes who would have trod the world under foot?

Can we forget?

Nay—Some things we remember—always.

And so—

Soon there shall stand, there on that bank of the Marne where the little cross is now—a Statue such as the world has never seen—a Statue that to our children and to our children's children shall tell of a battle won and of a bond of love between two great nations that will hold until the end of Time.

Against the sky, in huge proportion, the Statue of a Woman—a Woman—beautiful—though worn and beaten down by the storm of battle—who rises undaunted — dauntless — and raises high aloft Her Flag of Liberty—the Flag for which Her Sons—and Ours—have died.

On July 4, 1885, we celebrated the birthday of our Liberty.

From all lands came men to join our happiness and joy.

Some bore gifts in token of their Friendship.

From France—the Beloved—came the giant Statue—which stands in New York's harbor—"Liberty Enlightening the World"—A Gift from the People of France to the People of America.

From all France came the money for that Statue of Liberty of ours—from rich and poor—from the eager hands of little children—from the palsied hands of old men—the widow gave her mite—

Each gave a share.

So shall Our Gift to France be made.

Not from the chosen few shall it come—but even as we gave to her our Sons—from East—from West and



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Statue of Liberty

North — from South — from You—from Me—

From all America.

Marne Memorial Movement

The heroic statue now being designed by Frederick MacMonnies, which will be "America's Gift to France," will be placed in a position overlooking the Marne River near the village of Meaux, where the first German advance on Paris was stopped on September 6, 1914, less than thirty miles from Paris.

The idea of a memorial gift from America, to commemorate this victory of Joffre's poilus over the enemies of civilization, originated with a group of Americans who have formed a National Committee, with Thomas W. Lamont as chairman and Myron T. Herrick, former ambassador to France, as chairman of the executive committee.

Like the Statue of Liberty, the Marne memorial will be of colossal size. According to the present plans of the sculptor, it will represent the Spirit of Liberty as a woman, struggling with undaunted courage against her enemies. This central figure will be reinforced by others representing, probably, the Allies of France, the whole group taking the form of a pyramid, which to Mr. MacMonnies signifies defensive strength.

The Statue of Liberty was paid for by popular subscriptions, in small amounts, which poured in from every corner of France, a striking illustration of the regard in which the United States was held by the sister republic. "America's Gift to France" will cost $250,000, about the same as the cost of the Statue of Liberty, and it will be paid for in the same way as France paid for her gift to this nation.

The sponsors of "America's Gift to France" desire to make it at once a memorial to the defenders of civilization who fought at the Marne, a reciprocal gift in return for the Statue of Liberty, and a lasting expression of that feeling of kinship in democracy which unites the two great republics.

The Navy League has contributed $100 to "America's Gift to France." The Navy League considers this project most worthy of support. It is important to bring to the people of France an abiding testimonial of the respect, affection and loyalty of America to her great sister Republic.

If you desire to make a contribution to "America's Gift to France" through the Navy League, send in your check to the Navy League and it will be applied to the contribution. From the standpoint of sentiment, it is the desire that many small gifts be made rather than a few large ones, that this great American statue on the battle field of the Marne may represent as many individual donors as possible.

WHEN MY SHIP COMES IN

By Jean King Kempf

I used to wish for houses and lands
And gold—as mortals do;
And fame—and a name that's "known
in the gates,"
When my ship came in o'er the blue.
But now—



When my ship comes in
Through the Golden Gate
And I watch it creep slowly in view,
It matters not that desires be sate—
If it only brings back you.

Iron Ships and Iron Men

By MARC TIFFANY GREENE

IT SEEMS hardly more than yesterday that I sat in the Shipping Commissioners' office of a city on the Atlantic coast listening, not altogether with the best of grace, to a master mariner's vehement comments on the deplorable state of things maritime.

His was a thousand-ton barkentine and she was just in from Turks' Island. The crew was to meet him in the Shipping Office for their pay. Thus far not one had shown up. For, having obtained a slight advance, all were now engaged, beyond doubt, in assuaging the thirst acquired in the course of a voyage on a salt-laden vessel.

"Yes, sir," the captain stated with conviction, "with the kind of a crew you have to carry in these days, the water-front bums that ship as sailers——" he endowed the word with withering sarcasm—"w h e n there's a storm coming you've got to get in sail a couple o' days beforehand if you figure on saving any of it. Go aloft in a storm? That scum?" He indicated a pair of "sailors" passing arm in arm along the street outside, obviously en route from one place of refreshment to another. "And the mates they give us are no better. Why, man, in the old days a second mate was the first man aloft and the last down! Now he's the last aloft and the first down—if he doesn't fall down before he's half way even to the main-top!

"Just let me tell you a little story," the disillusioned mariner proceeded. "Maybe you've heard it before, but it'll illustrate the point I'm making better than anything else I know. Back in the days of wooden ships—and iron men—before iron ships came, to be manned by wooden men—" and so great became the captain's disgust with prevailing conditions at this point that it was necessary to employ extreme means to mollify him before a resumption of the tale was possible. At that time the means were available.

"Before the days of iron ships and wooden men," he resumed, fondling his pet phrase tenderly, "there was a crack ship you've all heard of, the *Flying Cloud*. She was a clipper of two thousand tons, built almost on yacht lines, and built to go. Donald McKay, in East Boston, turned her out along about 1850. She was commanded by Josiah Perkins Creesey, of Provincetown, and he was a driver from the word 'go.'

"Well, sir, the *Flying Cloud* sailed out of New York bound for San Francisco on May 18, 1851. She carried a cargo of the stuff the gold hunters out there needed and were ready to pay big money for. Other vessels leaving about the same time from Boston and Philadelphia and Baltimore were taking out the same stuff, clothes, shoes, tools and so on. And the cargo that got there first would land the big money.

"So Creesey's owners told him to get there first if he came through the Gate with nothing left but the hull and a jury-rig on it. They knew he had the fastest thing afloat, or they felt pretty sure of it, anyway—for it wasn't until this passage that the *Cloud* really proved it. So they sent aboard the best crew they could get together and left the rest to him."

The captain produced a wallet and therefrom a few worn sheets of handwritten paper. "I copied some of his log a while ago," he explained, "out of a book in the Masters,' Mates' and Pilots' Club in New York, just to call to mind, when I get good and riled with the 'things' on my vessel, that there were some real sailors once. Listen to this:

"'June 3. Blowing hard. Lost main-topsail yard and main- and mizzen-top-gallant sails.' By that time," commented my sea-going friend, "a skipper today would be velling for help from every direction. Here's another. 'July 12. Bad gale. Close-reefed top-sails. Split fore- and main-topmast staysails. 1 P. M. Sprung mainmast. Sent down royal and top-gallant yards.'

"Sprung mainmast!" repeated the captain, with the admiration of an artisan for a master of his craft. "And he hadn't reached the Horn yet. Did he make for the Plate? He did not! Listen. 'July 23. Off the Horn. Close-reefed topsails. Made 374 miles in twenty-four hours.' Had an easterly gale, see, 'stead of the westerly you usually get down there."

I recall making some banal remark about fortune favoring the brave. But my friend did not notice it. He was looking for another entry of "bad gales" and sprung masts.

"And what do you suppose," he demanded of me abruptly, "what do you landlubbers reckon it was doing when a skipper like that entered 'hard gales' in his log? It was howling in a fashion that would make you hide under the bed clothes, that's what it was doing!"

I did not dispute it. That was half a dozen years ago, you see. The time for our generation to prove itself was yet to come. Though, had we but known it, it was almost at hand.

"'August 28," resumed the captain. "'Suspended first officer in consequence of his arrogating to himself the duty of cutting up rigging contrary to orders. Hard gales.'"

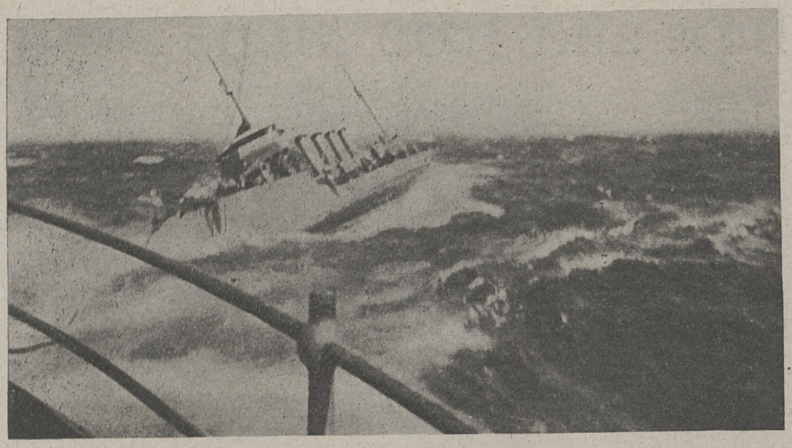
The broad shoulders shook with merriment. "'Arrogating to himself the duty,'" he quoted. "Some scholar, Josiah was. But you see the mate got scared. Thought the whole shooting-match was going and cut away some of the halyards. And old Josiah locked him up in his room. He knew what he was doing.

"Well, sir, the *Cloud* sailed into 'Frisco Bay just 89 days and 21 hours after clearing Sandy Hook bar. Nothing with sails ever equaled that record or ever will. Half her sails were gone, fore- and main-mast sprung and in fishings and everything above decks all shot to pieces. But her grand old hull was all right. And the price of that cargo would have paid for a thousand new masts. For nothing else came in within a fortnight of her. And one day's run she had made off the Horn, from sunset to sunset, was 438 miles. Do you get that?" he demanded. "438 miles!"

I got it. In fact I knew all about it anyway, as what man at all familiar with the history of our merchant marine does not? But I had deemed it as well not to interrupt during the recital, which was vehemently and luridly punctuated, with frequent comments on the uselessness of present-day sailormen.

And I knew further that the *Flying Cloud's* wonderful record stands supreme and always will. For nothing propelled by sails could be built to rival her. I was well aware that she was the finest thing ever put together, the pride of the flag she sailed under and a Yankee boast for all time.

"And so," concluded the captain, as he sighted the approach of a couple of genially-inebriated members of his crew, "that's what iron men could do with wooden ships. And here"—he indicated contemptuously his employes who were sidling in with a foolish leer on their weather-beaten faces—"are a couple of good examples of the wooden men they wish on us today."



U. S. Destroyer McCall rolling 45 degrees.

Yes, the *Flying Cloud's* day was a day of iron men at sea, and no one who knows anything about it questions the fact for a moment. And half a dozen years ago nobody would take much issue, either, with him who characterized the sailors of that day as "wooden men" manning iron ships. But half a dozen years ago was another epoch in the life of this old world. In 1851 it was wooden ships and iron men. In 1913 it was, for the most part, iron ships and wooden men.

But enter the year 1917 with the convoy system which was to save the day when every other hope had all but vanished. Iron ships? Yes. And enter, as to them, a little town on the Kennebec River down in Maine; Bath, by name. It was a name that meant the best when the Sewall house-flag was known in every port on the globe. And it is a name that, by virtue of the fact that Americans are Americans still, means the best today. Hail, then, the American destroyer, and the finest of her type, proven and acknowledged—and the man who has brought her to perfection, Charles P. Weatherbee, General Manager of the Bath Iron Works!

And enter, as the third and finest product of the new era, the American sailor, care-free and fearless, heedless alike of hardship and danger in the greatest game that was ever played—the American sailor, the iron man of today!

Do you need the proof? You shall have it.

In February, 1918, the *Leviathan*, convoyed by six American destroyers, was approaching the Irish coast through a terrific gale and snow-storm. She was making twenty and one-half knots, her mighty engines driving her unchecked through the appalling seas. The zigzagging destroyers were diving and plunging in the effort to make twenty-six knots. With life-boats and rafts and smoke-stacks carried away, and in imminent danger of opening up somewhere they stuck to the great ship until ordered to port. Very reluctantly they left until ultimately but one remained, the *Allen*, a 1000-ton destroyer of the older type, constructed in said little town on the Kennebec River in 1912. She was in charge of the intrepid Farley, a commander in rank, fearless sailor and stubborn fighter.

The *Leviathan's* skipper was senior officer, a "four striper," or full captain. "Return to port," he signalled the *Allen*. "I shall proceed at full speed alone." The liner's destination was Southampton. "We will stick," Farley signalled back.

So the *Allen* bucked and plunged while the immense seas broke continually clear over her. And many times, in her leaps from crest to crest of the mountains of water it seemed that nothing put together by mortal hands could keep from breaking in two. She was badly battered and every minute additional damage was being incurred. Yet not until a peremptory order was received from the senior officer did she return to Queenstown. And three days later she put to sea again to meet another great liner and protect her, with the regiments of American soldiers she carried, from the waiting submarine.

Not much evidence there of deterioration in the product of American yards, nor much proof of decreasing efficiency in the American sailor. Bath-built, they used to claim, down there in Maine, was synonymous with the best. That was more than fifty years ago. But how does it look to you today? To the boys on the *Allen*, off the Irish coast that wild February night, it looked about the same.

There's more proof. Plenty of it, in fact. It came all through that terrific winter of 1917-1918, not only in reference to the destroyers but to every troop and supply vessel that crossed in the numberless convoys, while the American merchant sailor proved his worth once again. No longer a "wooden man," but one to whom, as Admiral Sims has told you, you should doff your hats. In the fire-rooms of those old tramps, many of them little more than piles of junk afloat, he toiled uncomplainingly through days and nights when every succeeding moment might find the sea pouring in upon him through a gaping, torpedo-opened hole in the side. He stood four-hour watches in the tops, numb with cold, often with needle-like snow and ice flakes piercing his cheeks and searing his eye-balls which he dare not



Some of the "Iron Men" of the U. S. Destroyer McCall.

close against them lest a torpedo find the ship whose safety lay largely in his keeping.

* * *

In October, 1918, a 60-mile gale lashed the southern portion of the British Isles for three days without an appreciable cessation of force. I was one of the company of the American destroyer *McCall* which, with the *Cassin,* was patrolling in the Irish Sea. We had information of a submarine in that neighborhood, and we were running over a square, up and down fifty or sixty miles and back and forth, between the Irish and English coasts. We kept at it for three days through the storm without a sight of the enemy, who was doubtless lying comfortably on the bottom all the time. And a few days later he appeared and destroyed the *Leinster,* as you will recall, with a great loss of life.

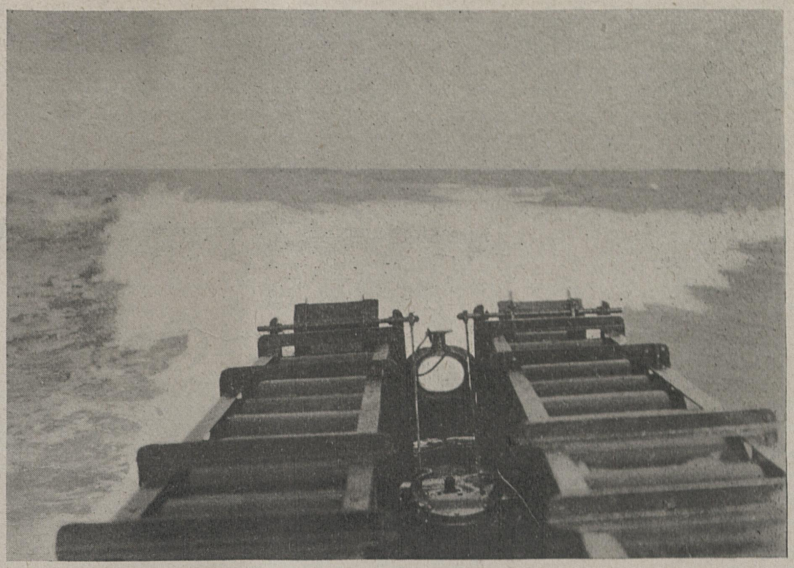
Well, during that three-days' run we were told several times by the commander-in-chief ashore that we would better seek shelter. And we intercepted a message telling of the loss of a British destroyer with all hands. She had broken in two in the heavy seas. But we kept at it. It was only part of the day's work anyway and nothing much to do with the incident I want to relate except as it explains how we happened to be nearby.

On the evening of the third day we caught a wireless message from the destroyer *Kimberley* to the commander-in-chief in Queenstown to the effect that she was proceeding to port with a certain number of bodies, several "cot cases," that is, men badly injured, and so on. That was all we got. What happened was left to our imagination.

The facts, though, were these. The *Kimberley* was one of the escort of the *Aquitania* bound for Liverpool with troops. There were three other destroyers with her. One of them was the *Shaw,* a fighter of the *Allen's* size and type, built by the Union Iron Works in San Francisco in 1913. She had been zigzagging to and fro ahead of the big liner in order to keep the way clear of submarines.

Just before daylight the *Shaw* had turned in toward the *Aquitania* and was running across her bows. The helmsman, a seaman named Rafferty, who had been a shipmate of mine on a transport earlier in the war, found to his consternation that the ship refused to respond to a shift of the wheel. Something had clogged the gear in the steering engine.

The *Shaw,* travelling at a high rate of speed, was almost under the liner's bow in another minute. It appeared that she was doomed, but there is no reason to believe from the stories of



Depth charges ready for letting go on stern of a destroyer.

the men aboard her that anybody so much as flinched. At any rate neither the helmsman, the lookouts nor any of the others on the bridge budged from their posts. And remember that these were not seasoned veterans. On the contrary many or most of the destroyer men at that stage of the game were reserves. And it was likely that as much sea-going as any of them had known a year before was crossing an inland lake in a row-boat.

The *Aquitania* struck the *Shaw* just abaft the bridge and cut the forward third part of the destroyer away as cleanly as if by a knife. The grinding of steel ignited the small vessel's oil supply in her forward tanks and half a dozen men were incinerated in their berths almost before they knew what had happened. Those on the bridge went overboard into the icy water. Rafferty, as he explained it to me a few days later in Queenstown, managed to cling to the wooden foremast as everything went into the water together.

Some of those who were thrown overboard were drowned. Others were picked up when the men still on board launched the whale-boat. In all, fourteen men, including five of the officers, lost their lives. I had been shipmate with two of them on a former vessel. Many others were badly injured. But in spite of it all, the bad weather, the cold, the immense seas and the apparently hopeless condition of the ship, no one appears to have lost his head for an instant. The men in the engine- and fire-rooms stuck to their posts. And when it was found that the two after-compartments were still intact the *Kimberly* was signalled that the *Shaw* would proceed to port under her own steam. And she did, at a speed of about five knots and running backwards, the *Kimberly* having taken off the dead and wounded and steamed for Queenstown. Eighteen hours afterward the *Shaw,* or what had once been the *Shaw,* made port in Portland, England. Later she was moved to Plymouth and there drydocked and repaired.

As a sort of reward for their conduct the men were given their choice of transfer to a station-ship, to another destroyer, or to return to the States as part of the nucleus crew of newly-constructed vessels. At that time the latter choice meant practically no more sea service during the war, but almost all of the *Shaw's* men elected to stay overseas and transfer to other destroyers, though some of them had to remain in hospitals for weeks, being thus confined when the war ended.

So, then, to sum up the case for our era, it almost appears we have proven our contention, that, although it is a day of iron ships, the iron men of the wooden ship era are here again. "The iron men of the destroyers" was a frequent characterization of us over there, though we never regarded it as more than a jest. But maybe, after all, it held a grain of truth. Certainly the destroyer men did their part even to the death, willingly and cheerfully, just as did the crew of the *Flying Cloud* when captain Creesey was carrying on in a howling tempest off Cape Horn with sails and yards going, one after the other. And perhaps Farley, of the *Allen,* isn't far from being in the same class with Creesey, of the *Flying Cloud,* when it comes to

nerve, as he "sticks" with the *Leviathan,* even as Creesey stuck by his owners' orders to be first through the Golden Gate, whatever the cost.

There, then, are the three eras in our maritime history. That of the wooden ships and iron men marked by the *Flying Cloud* and her marvelous exploits; that of the iron ships and wooden men, marked by crews composed largely of water-front derelicts —an era which ended in 1917; and the era of today—which began in that same year—that of iron ships and iron men, marked by the brave crews of the convoys and their brothers on the American destroyers. May it be an era never to pass!



Size of Navy-Cost of Living

To the Editor of SEA POWER:

I take the liberty of suggesting that you submit to the "Officer's Section" of the Navy League the question whether the present policy of the Navy Department in asking large appropriations for building war vessels, with the avowed intention of building the largest Navy in the world, is, especially at this time, wise or prudent. Remembering that the official head of the Navy Department strongly opposed building ships when the German fleet threatened our peace, it is a strange reversal of policy that he advocates building ships now at two or three times the cost at which they could have been built when they were needed.

Today our Navy is strong enough to hold the sea against any navy in the world, except England's. To England, the control of the sea is vital. Britain cannot support her own population and must import food and raw materials. Close the sea to her, and she dies. The United States is self-supporting. The loss of the control of the sea would be disagreeable, but not deadly, unless it was used to send an army against us, which might bring war into our midst and destroy our liberties.

We have incurred enormous debts, and have loaned enormous sums of money to nations that cannot well repay us at once. Unless this debt be speedily reduced, it will be a millstone around the necks of our children and their children, and must tend to prevent proper development of civilization hereafter. Every dollar that is appropriated and spent for unnecessary purposes is a wicked waste.

Are new battleships necessary today, unless we are going to engage in a crusade against other nations? Clearly not! Where is the nation that would undertake to throw an army into the United States today? Take Central Europe; her navies, war and mercantile, have been destroyed. Bolshevik Russia has no navy. Japan—we are twice as strong on the sea as she is. France, Italy, the Balkans—clearly not. So unless we want to go over to Europe or to Asia to impose our will upon other nations, we have no immediate need for more ships.

If we wait until we thoroughly digest the lessons of the great war, we will know better than we do today what types of ships should be built. I have always believed in capital ships; that is, battleships and battle cruisers; but we are learning new lessons every day as to the power and stability of air ships. By waiting, we will learn, and we can afford to wait.

It is much more important today for us to get our debts reduced than it is to build ships. Therefore, I, for one, say: "Stop building ships, and pay debts with the money saved."

* * * *

There is a great cry out for reducing the high cost of living. Trades union labor wants cheaper food, but they are not willing to take less for their labor in order that the farmer may get cheaper goods. What we must all remember is this: When we contracted our debts, we paid $2.20 a bushel for wheat. It took $2,200 in Liberty Bonds to pay for a thousand bushels of wheat. If we stored that wheat up until the price went back to pre-war conditions, it would take at least 2,200 bushels of wheat to pay off each bond. Today the nation owes twenty-five billions of dollars and the citizens and States owe nearly as much more. These debts are based on present prices. Reduce the price of our assets without reducing our debts and the result is bankruptcy. Before the war the money value of our annual product was thirty billions of dollars, and the billion dollars paid for Federal taxation, represented 3 1/3 per cent of our annual product. Today the same product "in things" measured in dollars is about seventy-five billions. The Federal Government will require about 6½ per cent of this amount for its expenses, interest, and a small sinking fund on the debt.

What we actually need is that the people of the country should consume as little as possible and that the savings created by this under-consumption should be used in paying the principal of the debt as rapidly as possible. Under proper leadership, the people of this country could be induced to save 10 per cent of our annual income. They did it during the war period.

By maintaining present valuations and reducing expenditures to the lowest possible limit, and by refunding the existing bonds on a sensible basis, it would be possible in four years to reduce the principal of our debt to a point where our children and grandchildren need not be greatly troubled by it.

But Congress must stop appropriating money for objects good in themselves, but which can wait. For instance, I believe good roads are a great benefit to the country when the country can afford to pay for them. But this is no time for large expenditures for new roads, for new projects, for new ships, for new anything else, which we can do without until we can get out of debt.

If the country were assured that their taxes would be used for paying debts, I believe the people would coöperate heartily. If our bonds were refunded on a 3 per cent, or even a 2½ per cent basis, and the taxes were thus collected in advance, so that they should be free absolutely of taxes of any kind, including supertaxes and inheritance taxes, I believe the public would absorb them, not as investors, but as patriots, and we would not then have to go through the farce of collecting large sums in taxes to pay unnecessary high interest charges.

To conclude, Mr. Editor, ask your Officer's Section what they think about new ships, and please let your Economic Editor consider my proposition about maintaining high prices and high taxes, and reducing debts.

Cordially yours,

ROBERT M. THOMPSON.

The Battleship Maryland

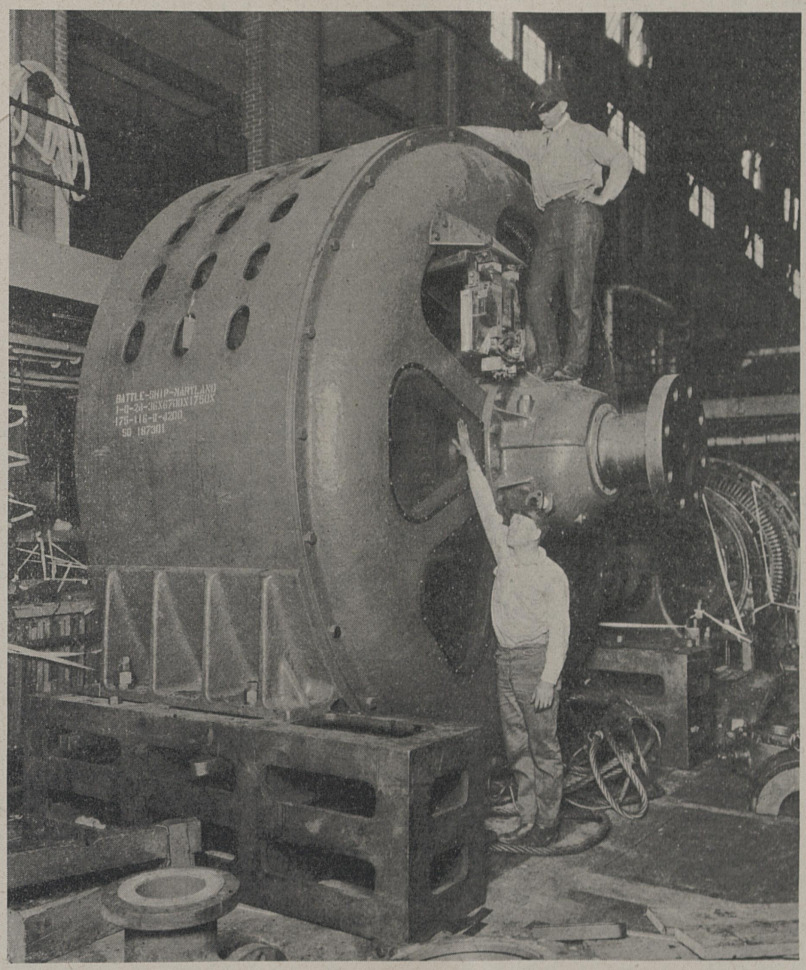
She Will Carry the Heaviest Guns of Any Ship Now Afloat

WITH the launching of the *Maryland*, the American Navy has the largest guns afloat. The nearest approach to the sixteen-inch guns with which the *Maryland* is armed are the fifteen-inch guns of the English Navy. The new super-dreadnoughts building for the Japanese Navy will be armed with sixteen-inch guns, but the American Navy will have several ships in commission with sixteen-inch guns before the Japanese ships of this class are in service.

Only a few years ago, the sixteen-inch gun built by the Army for the coast defenses was classed as one of the wonders of the world. For some time it was regarded as a freak and was one of the sights for tourists at Governor's Island. Doubt was expressed as to whether the fire of the gun could be effectively controlled, and for some time no effort was made to place it in any of the coast defenses. Finally, it was decided to station it in the Panama Canal defenses and a disappearing carriage was built for it.

When this was done, it was thought that the limit in the caliber for even coast defense guns was reached. The advocates of the use of sixteen-inch guns in the Navy met with little encouragement at that time. It was only after years of agitation and four years of experiment that it was determined to raise the size of guns in super-dreadnoughts from fourteen to sixteen inches. The original plans for the *Maryland* called for twelve-inch guns. Before work was started on the ship, the policy of the Navy Department was changed and her plans were modified so that she could carry eight sixteen-inch guns. But the Navy is not through with its effort to increase the armament of its super-dreadnoughts. The later dreadnoughts will carry twelve sixteen-inch guns. It is not a figure of speech to say the *Maryland* and the super-dreadnoughts in the three-year program will be floating fortresses.

The *Maryland* is the fourth electrically propelled battleship in the Navy. But the use of electricity in the *Maryland* is carried further than in any other ship in the Navy. With an auxiliary plant, not only is the ship lighted, but the fans, blowers, pumps, the machine shop, the carpenters' tools, the bakery, the ice plant, and every part of the ship is operated by electricity. The guns are loaded, the lifeboats are lowered, and the ship's great anchors are dropped by electrical equipment.



One of the propeller motors for the U. S. S. Maryland.

Other photographs of U. S. S. *Maryland* are on pages 234-235

Four electric motors twelve feet in diameter, weighing 62 tons and producing 7,000 horsepower each, drive the propeller. The current is obtained from two turbo-generator units driven by steam from nine oil-heated boilers placed in three separate compartments of the ship. Approximately 28,000 horsepower is thus available for propulsion purposes, or enough to supply power for a city of a hundred thousand population. A portion of the steam produced in the ship's boilers is diverted to six auxiliary turbo-generator sets, which creates the additional energy for the operation of the other electrical features of the ship.

The *Maryland* has a total fuel capacity of about a million gallons of oil. Her length over all is six hundred and twenty-four feet, her breadth on low water line is ninety-seven feet three and a half inches, and her mean draft is thirty feet. Her trial displacement is estimated at thirty-two thousand tons, and she is expected to make twenty-one knots per hour. Her crew will consist of forty-eight officers, thirteen warrant officers, sixty chief petty officers and one thousand four hundred and thirty men, or a total of one thousand five hundred and fifty-one.

Navy Half Manned

House Bill Provides for Ships but Neglects Personnel

By E. B. JOHNS

WITH the appropriation of a hundred and four million dollars carried by the Navy bill as it passed the House, it is claimed that the three-year program of 1916 will be completed in 1923. This has been questioned over in the Senate Committee on Naval Affairs, where it is proposed to make a further increase in some of the items which come under this head. Owing to the increased labor and material costs, and the general fluctuation of prices, it is extremely difficult to determine definitely whether the contentions of the friends of the Navy in the Senate or the House are correct.

Without regard to this controversy, which is in a manner a question of detail, Congress has decided to complete the three-year program by 1923. If next year it should become apparent that a larger appropriation is necessary to complete the program by 1923, the Navy will have sufficient support in Congress to speed up construction. Not only the battleship program but all of the hundred and fifty-six vessels required for rounding out the Navy have been authorized, and it is only a matter of appropriating the money from year to year and doing the necessary construction. On this question there appears to be no serious differences between the naval authorities and the leaders in Congress.

But the question of securing officers and men for the Navy, even at its present strength, is far from being solved. Congress must not only simply provide the necessary legislation to man the ships that have already been built, but keep pace with the increase in the number of ships that are provided for in the three-year program. Without the men to man them we might as well not have the ships. At present, the Navy has about half the men that would be required to man its ships in war, and its force of Reserves is totally inadequate. Its shortage of officers would be as great if all of the resignations now pending in the Navy Department were accepted.

The Secretary of the Navy and all the officers who have appeared before the Naval Affairs Committee have called attention to the present alarming deficiencies in the strength of the personnel of the Navy. Rear Admiral Robert Coontz gave more details in his testimony on this subject than any of the other witnesses before the committees. He declared that he was fully in accord with the statement from the Secretary and Admiral Washington on the question of the shortage of enlisted men. At the time that he appeared before the Naval Committee in January, there was a shortage of 45,000 men, and this has been increased because a number of recruits are not equal to those who have left the service.

"The only ships," said Admiral Coontz, "that are up to what I would call the proper man-power are those in the European waters and those in China and a few gunboats in Mexican waters, and a few in other portions. The Pacific fleet is very short-handed and especially in cruisers.

"The Atlantic fleet, the vessels that went south, were filled up about seven-ninths, I believe, of their complement, so they would make ten knots, go down and endeavor to drill and train. When they pulled out, by herculean efforts and by going over every man, almost by name, we got them fixed up in a way to later include, I think, thirty-one destroyers and we will say fifteen submarines and a few auxiliaries. The situation has come down to a state, to illustrate, where the Bureau of Navigation will get a telegram from Norfolk, 'All ready to sail, but need two electricians and two machinists first class.' Then we say, 'Who can we rob next?' And they find somebody after two or three days' delay, we put them aboard there, and the ship goes."

Admiral Coontz went on to make the startling declarations that two of the ships which belonged to the Pacific fleet are being held in Atlantic ports because men cannot be secured with which to man them. Furthermore, under the present laws there is no prospect of relief from this condition. During the month of January, the net loss of enlisted personnel was 772, in February 440, and for the first 25 days of March, 585. This despite the fact that a drive is being made by the recruiting service in every part of the country. The Bureau of Navigation is now recruiting about 550 a week, and the re-enlistments amount to about 125 a week, but these replacements are far below the number of men who are leaving the service. There is a daily decrease in the strength of the Navy.

The House Committee on Naval Affairs refused to include any personnel legislation in the appropriation bill. It is planning to conduct hearings on the subject and report out an omnibus personnel bill for the Navy. The more active friends of the Navy on the committee are urging action at this session of Congress. It is not probable, however, that any effective legislation will be enacted at this session, and it will be laid over until Congress meets in December.

It is being insisted by naval officers who have given much thought to the subject that the question of Reserves for the Navy should be handled in the legislation for a merchant marine. It is expected that now as Admiral Benson is chairman of the Shipping Board, a constructive program along this line will be sent by him to the Senate Committee on Commerce, which has under consideration legislation for the creation of a merchant marine. Chairman Jones of the committee is favorably inclined to any legislation of this character which will fit in with his program for a merchant marine.

The entire subject is being considered both in the Navy Department and by the advocates of an adequate Navy in Congress. There is a general agreement that something of a constructive nature must be enacted into law if an adequate, active and reserved personnel is to be secured for the Navy.





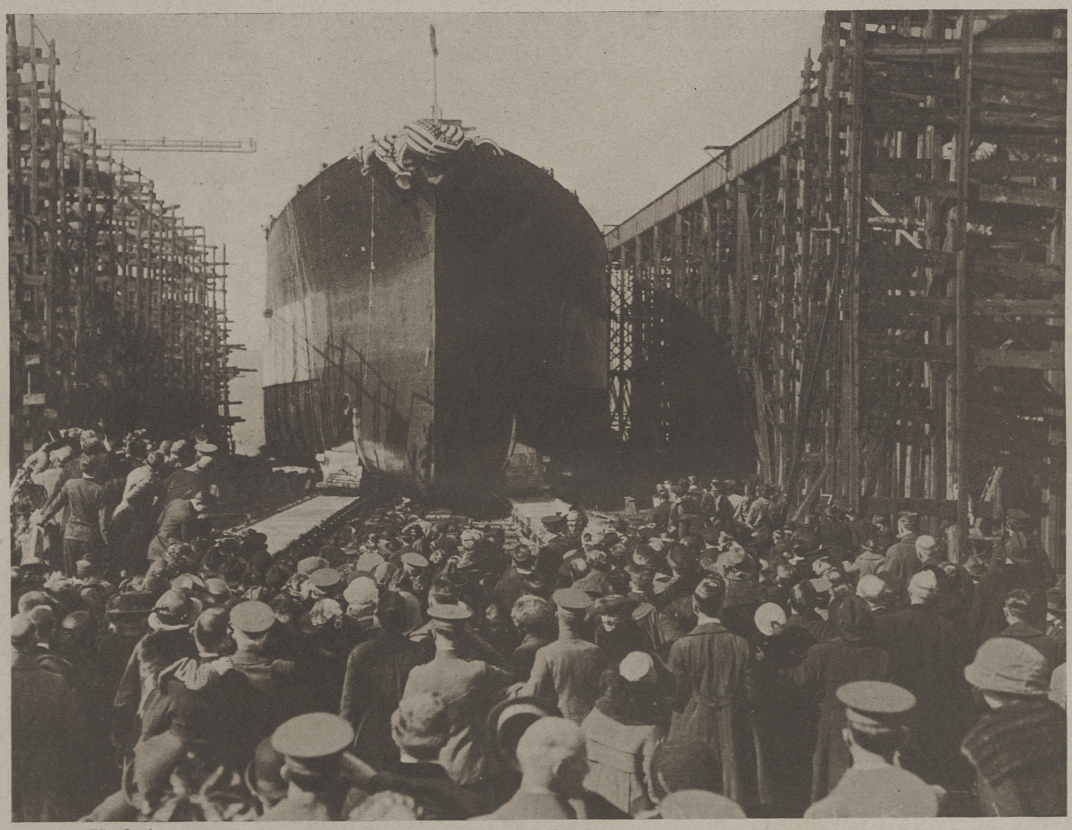
International Film Service

"Crusading for Right"—An eight foot bronze statue by Raphael Peyre, the distinguished French sculptor. The statue will be purchased by subscription of officers and men of the Marine Corps. It will cost $11,000. It has been shipped from Paris to this country, and will stand for a time in the Marine Corps Headquarters, Washington, D. C., until arrangements can be made for permanent installation outdoors in the Capital city.



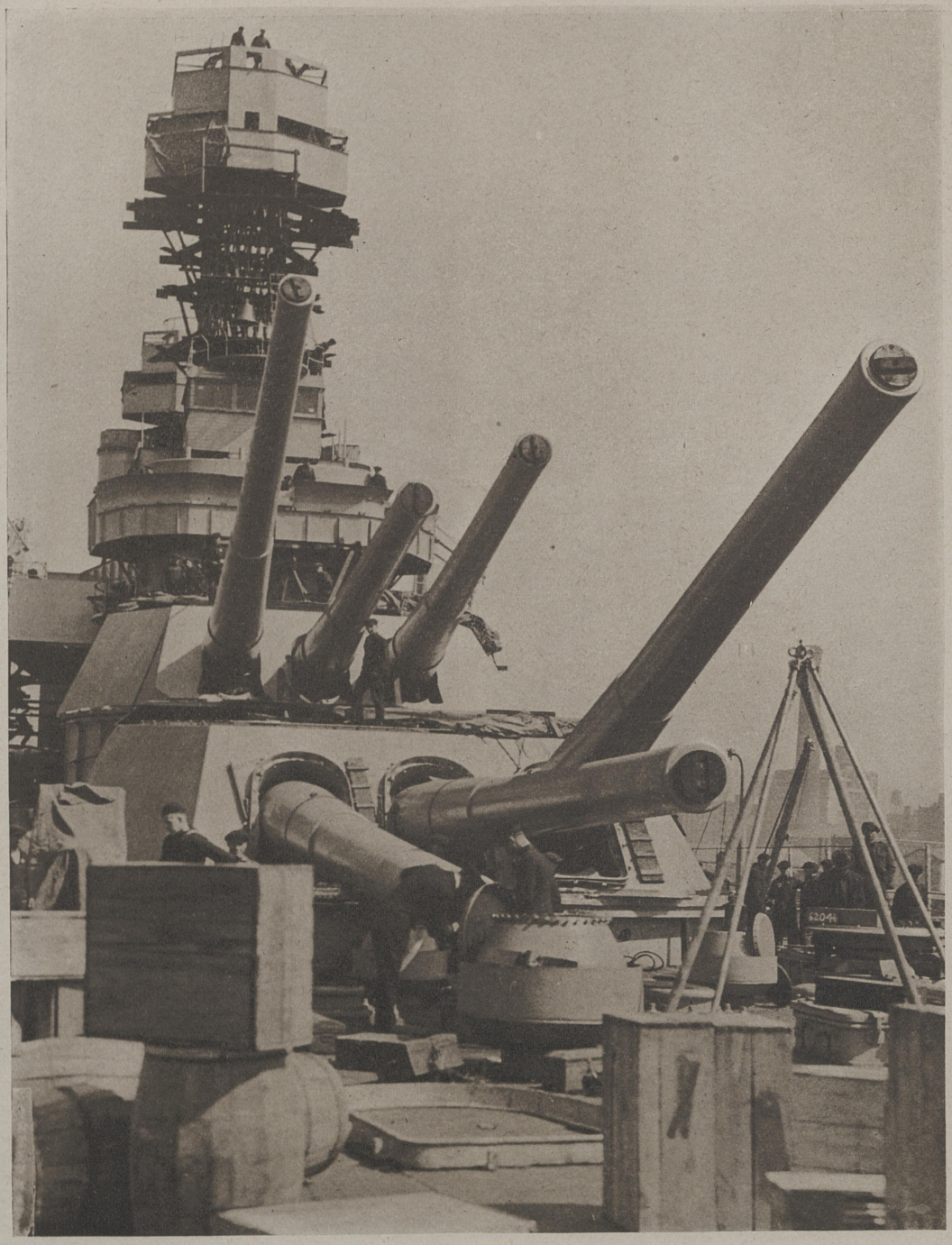
International Film Service

U. S. S. Maryland afloat for the first time, immediately after her christening and launching as seen from Army aeroplane flying over waters at Newport News, Va. The Maryland is 624 feet overall and has a beam of 97 feet and full load displacement of 32,950 tons. She will mount eight 16-inch guns, the first guns of this size ever mounted on any fighting ship.



International Film Service

The U. S. S. Maryland, greatest of Uncle Sam's superdreadno ughts, going on the ways at Newport News, Va., after the christening bottle had been broken against her. Mrs. E. Brooke Lee, wife of the Controller of the State of Maryland, christened the ship.



© *International Film Service*

New style fighting top and six of the twelve 14-inch guns bristling from the turrets of the U. S. S. Tennessee, soon to be placed in commission at the Brooklyn, N. Y., Navy Yard where she was built.

Your Rights and Mine

University Man Holds German Collectivism Superior to American Individualism

By CLARENCE OUSLEY

Dr. Alonzo Englebert Taylor, of the University of Pennsylvania, who served the Federal Department of Agriculture and the Food Administration during the World War, has published in the Saturday Evening Post and is soon to republish in book form a wonderfully revealing series on the economic and sociologic conditions in Europe. He remarks in one of the papers: "When the writer was a student in Germany thirty years ago the majority of the students were socialists, including even the younger officers. One believed in socialism just as one believed in Wagnerianism. It was an esoteric cult that had nothing to do with life. Our youth is in that situation today." The observation confirms the writer of this series of articles in the view that un-American doctrines have been taught far and wide in the United States. The following article exhibits Germany as the source of much such teaching

ONE would hardly suppose that a year after the collapse of the German State any thoughtful American would still be under the delusion that the German political and social system of 1870 to 1914 was superior to the English or American; or, if such a view were entertained that it would be set forth boldly at the moment when the civilized world is still nursing the wounds inflicted by German ruthlessness.

Yet this is the unequivocal teaching of Albion W. Small, former president of the American Sociological Society, in a pretentious essay entitled, "Some Structural Material for the Idea of Democracy," published in the *American Journal of Sociology* of November, 1919, and January, 1920.

As if to emphasize the fixedness of his conclusions, the author is careful to explain that while the essay consists of notes of lectures during the academic year 1913-14, "they represent a sort of calm which was possible before our minds were disturbed by war-shock, possibly a stability of mental adjustment which we may not soon recover."

He has not learned as much as the Germans have learned, for they have learned enough to change the form of their government. In order that there may be no doubt about the author's teaching, I quote at length, pages 274-5:

"Our main proposition, viz.: 'We must learn to adjust ourselves to a conception of life which is avowedly and systematically ethical,' has been accepted as a commonplace, and substantially in the sense indicated above, by the most influential German economists since 1872. This is the first cardinal difference between German and English economic theorists. The second practically coördinate difference between the two groups is in one sense a mere application of the first. Its importance is more evident if we consider it without reference to the more general ethical principle of which it is an expression. The German economists in 1872 deliberately repudiated the dogma *laissez faire* as a key to community policy. They adopted in its place the conception that life in society must be concerted, cooperative construction. The Germans were merely returning to immemorial German tradition when they made this profession of faith. They had spent more than a half-century trying to convince themselves that the British type of theoretical individualism was the beginning of wisdom. At length they returned from the husks to their father's house. Since that time they have shown very few signs of wavering in their loyalty to the community idea.

"The Germans are not cited as authority to prove the validity of the community conception. It has often been convenient, however, to have German experience at hand as a check to the arrogance of individualistic dogmatism. If there had been on record no equally conspicuous case of national success on the collectivistic basis, it would have been much more difficult for men who were convinced of the shallowness of British liberalism to assert themselves against its self-confident smugness. Germany is too big a fact to be sneered out of sociological argument. If England has prospered on a quasi-individualistic basis, which could not possibly have been thoroughgoing individualism in reality, Germany in the last half-century has prospered much more wonderfully considering the handicap carried, while professing and practicing a policy which has often, in England and America, been denounced with the supposedly damning epithet 'socialistic.'"

The opening sentences speak of "economic theorists," as if the comment were upon doctrines held by a group of thinkers and not upon principles and practices of State, but that the German State as a whole is in the author's mind is shown by the concluding sentences which speak of "National success on the collectivistic basis," "the shallowness of British liberalism" and "Germany too big a fact." The last sentence exhibits the complete conclusion for he holds that Germany during the last half century prospered more wonderfully than England "while professing and practicing a policy (of collectivism) which has often, in England and America, been denounced with the supposedly damning epithet 'socialistic.'"

In the light of war revelations it seems incredible that any open-minded student of civics and sociology could still believe that the German "conception of life" is more "ethical" than the English or American. It is not so much a matter of concern that the Milwaukee district of Germans should return the treasonable Berger to Congress, as that professors in our leading universities should be teaching American youths that the German conception of State is more ethical, more worthy of maintenance, than the American.

Mr. Small is entitled to his opinion: he has a right freely to express and advocate it—that is a blessing which the American system of government preserves and the collectivistic system of Germany limits or denies—but I raise the question whether American society should encourage an educational institution which thus directly and positively teaches contempt for American principles of government and admiration for the precise German system which precipitated the world war. Such utterances during the war might properly have been rated as near-sedition. Conveyed as philosophical truth to thousands of impressionable young men and women who go out into the body politic, they are scarcely less objectionable. To every American who has come by contact or observation to abhor the policy which Germany professed and practiced, culminating in the arrogance and brutism of attempted world conquest which cost ten million lives and incalculable treasure, such a preachment is

near to insult of intelligence and self-respect.

The author's contempt for American ideals is further illustrated by the remark: "In one of its aspects the present American attitude toward the community (collectivist) phase of life is a species of spinsterish prudery trying to ignore out of existence facts as vital as sex."

He speaks rather reproachfully "of all the religious types that have had a part in the making of America, Puritan, Pilgrim, Catholic, Quaker, Anglican, Hugenot, Lutheran," and brings the sweeping indictment that Christianity "has never succeeded in making the spiritual motive sovereign in civilization." He forgets that his admired and preferred Germany made Christianity a State religion. Speaking further of the followers of religion, who, he says, "have done so much to stimulate thrift and prudence and calculation of material advantage that religion is in effect responsible in part" for the undue valuation of material things, he says: "Suppose all the voters of the United States who are members of churches . . . . came together in one party, with the platform: We will support the interests of the people whenever they conflict with the interests of capital. If they meant what they said, and if they were fairly wise to what their meaning must involve, their organization would mark far and away the most drastic revolution since Cromwell."

This is downright misrepresentation of the American people and the American spirit. Religious people on the whole and the American people generally, in the final clear-cut issue of any contest between the people and capital, have always supported "the interests of the people" which, of course, are their own interests. Religious people on the whole and the American people generally are intelligent enough and courageous enough to perceive and to maintain their own moral as well as material interests; they are courageous enough to oppose capital whenever it commits wrong in a manner unmistakable and grievous; upon occasion they have taken rather drastic measures. The danger now is that in popular antagonism to the powers and apparent evils of large capital they will do injury to all capital and invalidate those rights of property in the exercise of which we have developed such great comfort and such widespread prosperity that in normal times there is no serious poverty, no real privation, which individual industry cannot overcome.

The American people destroyed capital in slavery; they have regulated capital in railways; in many places they have made street railways unprofitable investments; they have not hesitated to take over public utilities at their own appraisal; they have just destroyed capital in distilleries, breweries, bar fixtures and intoxicating liquors; they will not permit capital to operate unsanitary establishments or to manufacture and sell unwholesome foods and drugs. Not a year has passed since the republic was established when some act of government, federal, state or municipal, has not been addressed to the control or limitation in the public interest of some form of capital enterprise. Some men of capital have done much wrong in America, as elsewhere in the world, but there never was a time when "vested rights" were held in such little respect as now, and there was never a time when development important for the people's creature comfort and social welfare was more in danger of arrest and reaction through fear of popular wrath excited by insane radicals and neurotic theorists. Moreover, there never was a time when so many men of large accumulation had such keen appreciation of their debt to society and to their fellow workmen of industry.

It is common for the perverse propagandist and ignorant zealot to speak recklessly of the interests of capital and the interests of the people, and to charge that American government is dominated by capital, but such language is inexcusable in a college professor who knows American history and habits, who witnesses year by year majority control of public affairs, and who is learned enough to understand that capital includes small savings, small investments, small commerce, small industry, and small farms and homes, as well as great steel mills, great packing houses, great coal mines and great railroads.

Continuing with his thought of a Cromwellian revolution he says: "Sooner or later Americans must observe a 'decision day' "—as if every State and Federal election were not decision day with unfettered American freemen. "We must come to an express understanding with ourselves as to whether we do or do not believe that persons are more valuable than things"—as if every power and resource of the states and nation were not employed for the health, education and opportunity of the citizen. What congested urban section, what exceptional sweat shop, what foreign quarter has this man been observing and accepting as a cross section of American life and spirit? He is as provincial and as ill-informed concerning the actions and thoughts of the great body of American citizens, in their neighborhood, community, commonwealth and national activities, as a New York East Side alien six months over.

I have been wondering since I began these studies of American writings on political economy and sociology just what the professors were aiming at. I find it in the same issue of the *American Journal of Sociology* in an essay by Professor L. L. Bernard, page 324: "Thus the objective viewpoint in sociology is a plea for the elimination and standardization of the personal equation in determining social contact and in organizing social control."

They are going to standardize us, to make us all equally negligible as individuals, to be sociologically bred to a standard type like so many Shorthorns or Berkshires, with no aspiration or opportunity for personal achievement or excellence. Society is not to be an expression of the development of its members; the State is not to gather its strength from the strength of the people, but something called the Community is to reduce its constituents to standardized units without individual rights, privileges or possessions, and from this negative dead level of mediocrity and indifference somehow spontaneously to evolve a new civilization which will better no man's life but miraculously glorify itself.

Professor Bernard has rather militant notions of how he will accomplish his purpose. On page 232 he says: "The subjection of the press and of other avenues of instruction to a scientifically objective control is of supreme importance here."

So, the soft spoken scientific sociologist and breeder of uniform men and women betrays the disposition to practice tyranny that all humans possess in greater or less degree and may be depended upon to exercise when they have the power, whether they be individual autocrats, associated aristocrats or unrestrained majorities, and under his dispensation our sources of information, our literature and our schools would be under censorship. The soviet regime of the "objective control" of socialistic Russia is now making a bald exhibit of such control.

It would all be amusing if it were not tragic; it would be silly if it were not revolutionary, but it is all very serious, most portentous, for these doctrines are permeating the whole body politic through the thousands of young men and young women who go out in June of every year to spread distrust of American principles and

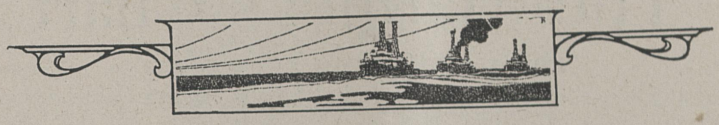
adoration of mass absolutism. Another generation of such proselyting, and the republic of free men which has excited the admiration and emulation of the world will be no more. From its wreckage will arise some communistic mirage of free government to disappear on the approach of real experiences, as all socialistic adventures have failed in times past when they were put to the practical test of striving human nature.

It passes my comprehension that "a wayfaring man though a fool," not to mention an educated man, cannot perceive the lessons of experience especially as they were emphasized by the great war. What was it that enabled the United States in two years, after a generation of practical pacifism, to erect and put into operation a war machine more powerful than Germany had evolved in fifty years? It was not a strong government, a strong "community," conferring strength upon the people; it was a strong people, become strong through more than a century of individualism, conferring strength upon the government.

As it was in the achievement of war, so it will be in the achievements of peace, for the art of war is only the mobilization and conversion of the industries and resources of peace. There can be no strength for achievement in the community unless there is strength in the people; there can be no strength in the people if there be no strength in the individuals, and the only way to develop strength in the individuals is to practice individualism, which means the free play of energies, unfettered choice of movement, unsupported self-reliance and uncompromised personal responsibility. It is by such processes that we have come up from barbarism, and it is only by such processes that we can maintain civilization. It is the way of nature, and the Almighty God has not yet granted to man absolution from the pains and penalties of nature's inexorable law.

We have arrived at no "new day" in the sense of a different day. We have another day every day, but we are warmed by the same sun, chilled by the same cold, subject to the same diseases of body and mind, the same passions and aspirations, which we manage slowly and almost imperceptibly to temper from age to age but which will never be subdued into perfect love until the good God remakes us or brings on the millennium.

This is the fourth and last of a series of articles on the subject of modern college teachings concerning personal and property rights, to which will be added in a subsequent issue of SEA POWER a fifth presenting the author's conception of the right to "life, liberty and the pursuit of happiness."



A Tax on Sales

Representative Fuller of Illinois in Debate

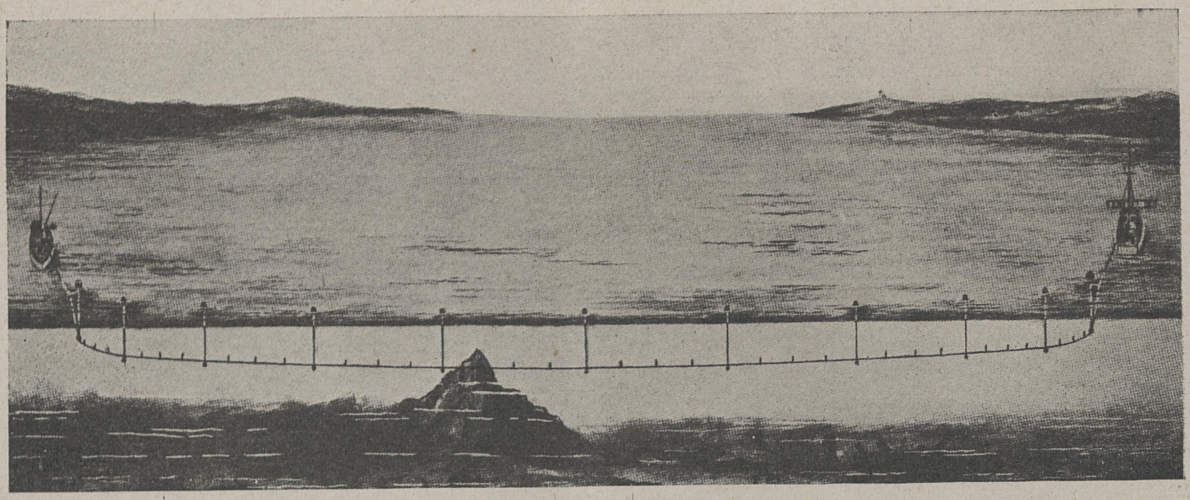
AS a result of the war and the orgy of reckless and extravagant expenses which accompanied it Federal taxes must be in fabulous figures for at least several years to come. The country is the richest on earth, and can pay all that, with reasonable economy, can be required by the Government in the way of taxes, if they are properly and fairly distributed, so that every person may be required to pay only his or her just share and no more and that no person or corporation shall be permitted to avoid payment of his, her, or its just proportion or to pass the buck to some one else and thus recoup from those who are powerless to prevent.

It is my candid opinion that the greatest contributing cause of the present high cost of living is our present system of taxation. And this is so for the reason that the man at the foot, the ultimate consumer, has to pay it all, so that while thousands are made millionaires millions are impoverished and find it very difficult to procure even the ordinary comforts and necessities of life. Notwithstanding the enormous expenses of the Government, yet if such expense was fairly and evenly distributed it would not be difficult to raise the necessary amount, nor any very great hardship on anyone to pay his proper share.

I will tell you what I would do if I had the power and the precise remedy I would suggest. Financial experts may not agree with me, but I feel that the remedy is very simple and easy, and that if applied we might soon get back to something like normal conditions and that the prevalent unrest among the people would soon disappear. If this contention is true, the remedy is worth at least very careful consideration and a fair trial. I would wipe the slate clean. Except as to tariff and internal revenue, I would repeal all the existing revenue laws, all the present unequal, unjust, and burdensome income tax, surtax, and excess-profits taxes, and I would substitute a flat tax on all sales of every name and kind. I have no way of estimating what such a tax at any given percentage would produce, but I have seen an estimate of $500,000,000,000 as the amount of one year's sales. If that is correct, a tax of only 1 per cent would produce $5,000,000,000 annually, which would be ample to pay all the Government expenses and very soon reduce and wipe out the national debt.

Let us see how such a tax would operate. Every man would pay his just share and no more. On the $5 pair of shoes he would pay a tax of only 5 cents, instead of $5 as at present. Under such a system of taxation there would be no excuse for the profiteer to materially add to the cost of the product. Every person would pay only the tax on the amount of what he or she purchased and every other person would be required to do the same, and the Government would get the full amount so paid. It would be absolutely fair and I believe the fairest and best system for direct taxation that could possibly be devised.

There is no gainsaying the fact that under our present system the tax which wealth is supposed to pay is passed along to those who can least afford to pay; that much more than the actual amount of the tax is thus passed along in order to swell the profits of those whose excess profits are intended to be taxed; that this is a very great contributing cause of the present abnormally high cost of living; and that this very real injustice is the direct cause of the regrettable unrest prevailing throughout the country. We, as the people's representatives, can not act too soon to remedy the evils mentioned.



The long wire drag.

The Mariner's Chart

How it is Constructed to Guide the Mariner Through Dangerous Waters

By ELMER BEAUCHAMP COLLINS

TO the layman, who makes his abode ashore among the tall timbers, and occasionally ventures seaward, there comes a feeling of marvelous wonderment as to what manner or means has the uniformed officer, strolling slowly back and forth on the rolling, pitching bridge, ever gazing into the swinging compass bowl and ever looking ahead for unforseen dangers, of knowing where the vessel is tending and what method of reasoning is adopted to continually bring the destined port always dead ahead.

On shore the engineer of the last limited express is guided by the shining steel rails and bright semaphore signals; on the trackless, unmarked deep how much more essential and important is it for the navigator to be guided to his port by the ever reliable true-pointing marine compass, aided only by the many accurate sailing charts of the various harbors and ocean waters of the world.

A work of art and beauty is the marine chart as produced today, but the one important element that makes it most reliable, valuable and trustworthy to mariners guiding millions of tons of costly cargo and thousands of precious human lives on long successful voyages on the ocean highways into the various world ports, is the preciseness with which it is made and the care and accuracy used in its construction.

Marine charts showing the long coast lines and navigable harbors of the entire globe are originally made and prepared by a carefully selected corps of scientific officers and practical, trained seamen of the different navies of the world. Our own Navy has a large number of faithful painstaking hydrographic engineers working down in the fever tropics of Panama, and Central America, along the reef-bound coasts of sunny Cuba, and tropical Haiti, and yonder into the blue waters of the Pacific, as far away as the beautiful islands of Samoa and isolated, interesting Guam. Our American waters, Alaska, Porto Rico, Hawaii and the far eastern Philippines are charted by the Coast Survey, possibly as fine a trained organization of surveyors and navigators as there is in the world. For accuracy and preciseness in the production of a beautiful, clear marine chart, their record is unsurpassed by any nation on earth.

Far distant on the horizon, only dimly visible to the eyes of the curious "where - are - we" crowd of passengers assembled on deck of a steamer bound down the coast, was a thin dark blue narrow strip of the long trending coast line, relieved only now and then by the appearance of the white snow-capped summit of a lofty mountain peak peeping out of the heavy overhanging clouds. For hour after hour the stillness was relieved only

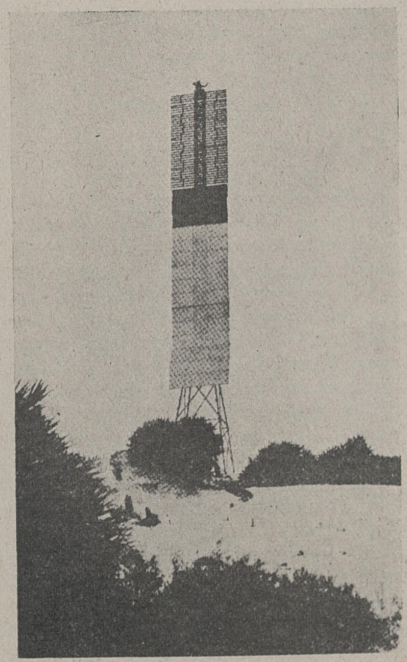


The Topographic Party with plane table, sheet, and stadia rods.

by the pounding and racing of the propellers in and out of the foaming waters. Almost suddenly it seemed the monotony of it all was broken, for out into the cool, clear, still ocean atmosphere rang the sharp, stern voice of the skipper to the man at the wheel:

"Hard a port—ease her—steady," and as the vessel swung there, broad off the starboard bow, appeared the black and white striped lighthouse with flying signal flags, then into view the tall sharp church spires, the high black stacks of the city factories, the long protruding wharves, and presently the vessel slowed down and dropped anchor safely in her home port.

A visit to the bridge or pilot house, while under way, would have shown any curious passenger the anxious captain and his faithful navigator pouring over a large chart, a miniature picture of the land and sea, just as it is in nature, with every indentation of that far-off coast line sharply and clearly shown, every river pouring its fresh waters into the salty seas, every towering mountain peak and steep sloping cliff, the dangerous reef and shoals, the deep and shallow soundings, the safe channel through the sharp coral reef, every rock-bound lighthouse, the fog-sounding light vessel, the many-colored floating bell and whistling buoys, the long stretching wharves and piers, the forbidden anchorage grounds, the location of the time ball, the custom house, the quarantine and life-saving stations, the high radio towers—all these things and many more were accurately located and clearly shown on that ocean chart spread out before the captain.



Hydrographic signal for off shore sounding.

Upon the arrival of a surveying vessel on the working grounds and waters of an unsurveyed locality to be charted, it is usually necessary first to make a search for a long, smooth, level sandy beach of from one to three or more miles in length. Here wooden stakes are driven, aligned and leveled. From stake to stake the lengths are most carefully measured by a standardized steel tape and the total gives the length of the base line. This initial starting line is generally the only steel tape-measured line of the entire survey; all other distances between



Sounding from surveying steamer in shallow water.

the various signal stations extending for miles up and down the coast are computed in a scheme of triangles covering the entire area of land, water and off-lying islands, hence the extreme necessity for an accurate measurement of this one base line, upon which all other distances on the newly constructed chart depend.

Now it is absolutely essential to know three very important things concerning one end of this base line in order to extend the work over land and sea. One is its latitude, the other its longitude, and a third the true direction that it bears from the other end of the base line, hence the necessity of establishing an absolutely true north and south line. With this information at hand, simple is it to determine by computation all other latitudes, longitudes, and bearings of prominent headlands, mountain peaks, high trees on islands, conspicuous rocks, floating signal flags and all other important and prominent aids to the mariner.



Off shore floating hydrographic signal.

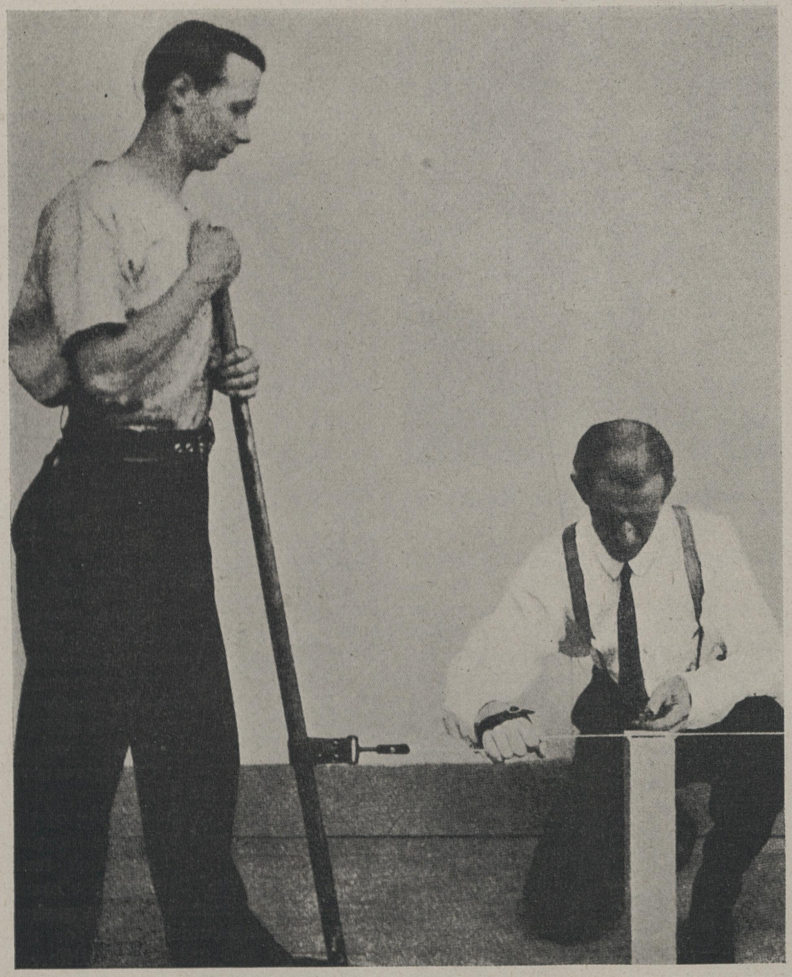
The difference between this north and south line and the direction of any good marine pointing compass needle is the value of the variation eastward or westward of true north, because as is well known, the compass points true north in but few localities on either land or sea. On every navigational chart is the variation of the compass shown. Over the broad seas the various government vessels of the world are everywhere taking observations to correctly determine this changing magnetic variation. The Carnegie non-magnetic ship, sighted by hundreds of navigators, has covered the waters of all the oceans, crossing and recrossing its own tracks, taking thousands upon thousands of most painstaking observations for variation and dip of the compass. Greatly indebted are all mariners who sail the seas to this splendid scientific organization for its work in the interests of the entire maritime world.

The next step in the making of the chart might be said to be the location of the large white and black temporary signals and banners, the many large, bright-dabbed, whitewashed spots on conspicuous rocks for the convenience and use of the different hydrographic parties. From the vessel's side leave boats with the topo-

graphic or land parties with their light convenient handy plane tables. Only the principal triangulation stations are plotted on their blank skeleton sheets, but these, when filled with the numerous detail required, become the landed portion of the finished chart. These light surveying tables are set up along the shore line and easily carried from point to point, the distance to prominent objects rapidly read off by the skillful instrument man and all important details of the coast line, the roads and hills bordering it and everything of importance to the mariner sketched and drawn on the ground as is actually seen in nature.

The distances to the cloth signals are quickly measured by the stadia rod, all prominent trees, a white chalk cliff, an odd green knoll and many other prominent objects are cut in to aid the parties in the boats in obtaining the true and exact position of every sounding or depth of water that is taken. A brown sheet of clean heavy paper showing only the linear shore line with all its needed white signals plotted in their correct positions is furnished the sounding parties, working in the cutters, the whale boats or steam launches. Usually from the shore out to certain depths of water the small boats sound, then seaward, as it deepens it becomes necessary for the survey vessel to continue the line of soundings out beyond the hundred fathom curve.

Two observers with sextants, a recorder with clock and record book, a couple of skillful leadsmen and a crew of sailors usually make up the hydrographic party. Each sounding noted on the chart is most accurately located. Ahead the leadsman throws his swinging hand lead and sings out the depth of water and the kind and character of the bottom; the time, the angular degrees of right and left angle, the depth and kind of bottom is noted by the busy recorder in his sounding book for any future reference. The position of the boat is quickly plotted, then underway again. Hundreds of soundings are taken and plotted on the rough sheets. All different aids and dangers are charted; the character of the strong-flowing current, the dangerous tide rips and eddies, in fact, anything of value is noted by the sharp trained eyes of the skillful hydrographic engineer.



Measuring a base line.

As the work progresses an automatic tide gauge, run by clock work constantly going day and night, is marking and recording the gradual rise of the highest tide and the fall of the lowest water on rolls of paper in order that all depths taken by the sounding parties can be reduced to their true and proper values.

Time and again, in the days of the past, soundings taken by the hand lead or sounding machine have utterly failed to locate the hidden and dangerous pinnacle rocks, the lead having slipped off into deep water, failing to give the leadsman indication or notice of its dangerous existence. Various dreadful marine disasters in apparently deep and well surveyed waters have taken place, until today it becomes necessary in waters frequented by most of the world's valuable shipping to employ a long wire drag to discover the hidden death-dealing obstacles. By powerful steam launches this heavy drag is towed, and upon meeting obstructions the danger is immediately indicated to the watchful observers.

Thus is seen in a general way the vast amount of necessary material gathered for the completed marine chart. During rainy days and bad weather the preliminary field sheets are computed, constructed, drawn and completed, while on the working grounds. To the government departments at Washington all records are sent, meanwhile the surveying vessel has received orders to proceed to new waters and working grounds. Now is the above field work again carefully reviewed; the computations recomputed and readjusted, new projections laid down amid the surroundings of the still quiet office. The shore lines, roads, hills, trees, soundings, reefs, everything decided upon for the finished and completed chart are redrawn and lettered by skillful draftsman. The whole is carefully studied and scrutinized by expert cartographers, then turned over to the careful and painstaking engravers, who cut with masterful and artful stroke the large copper-plate, thus producing permanently in metal the beautiful marine chart. Should an emergency quickly arise and a demand be made for this chart, it is at once handed to the photographers to be photographed, then to the lithographers who transfer

it to zinc plates, then to the presses where hundreds of copies are rapidly run off and immediately furnished to the navigator.

Constantly employed are many trained workers correcting and keeping up to date the many changes occurring to this chart as time passes. Information is sent in to the Hydrographic Office and published in a "Notice to Mariners" telling of the new lighthouse now building, its color and visibility; the buoys recently established or withdrawn, the wreck lying on the coral reef, a new fog signal on shore, a newly discovered rock, an unlighted beacon and many other things which the mariner must know when he is making the coast—the most dangerous time of the entire voyage in the thick dirty weather.

When hour after hour as he anxiously paces back and forth on the bridge, peering out into the darkness of the night or thickness of the fog for just one indicated aid, shown on the chart—that whistling buoy, or that lighthouse—and as the vessel is slowed down, feeling her way in, and creeping shoreward, what a ray of hope enters the mariner's heart, what a relief of heavy responsibility is taken from his shoulders, what a spirit of gladness is seen to lighten his whole countenance into almost a glowing radiance as he picks up and sights off there a point or so on the starboard bow the lonely anchored lightship, then floating yonder the charted starboard lightbuoy, then off to port the black can-light buoy, then the flashing green beacon, and as he glances again at his chart it is as if a thick mist had suddenly been swept from a blurred and clouded vision, for in that chart spread out before him there is the very light of the day, and the mariner now knows that all is well with him.



The Mariner's Chart

Coast Guard Under Navy

To the Editor of SEA POWER:

San Francisco, Calif.—I have been much interested in the proposed transfer to the Navy Department from the Treasury Department of the Coast Guard Service of the United States, and therefore note with much interest the opinions expressed by the majority of the officers of the Navy and Coast Guard Service, as evidenced in your November issue, which has just reached me.

A point of view which appears to have escaped attention is the very important interest which the Coast Guard Service has in the minds of the shipping men of both coasts; and this is to advise that at the time I directed the matter to the attention of the Chamber of Commerce of San Francisco, asking their endorsement of the transfer to the Navy, it was in turn submitted by the Chamber to the Shipowners' Association of the Pacific Coast and the Pacific American Steamship Association, the former covering coast service and the latter foreign service controlled on this coast. Both of these bodies rendered a report unanimously endorsing the transfer, and requesting the Chamber of Commerce of San Francisco to use their best efforts in this direction. This information was passed on to the Chambers of Commerce of Portland and Seattle with like results; and the whole matter has now gone forward, I believe, to the Chamber of Commerce of the United States, with headquarters in Washington, D. C.

You will, therefore, see that a very strong commercial interest, which is vitally interested in the activities of the Coast Guard Service, believes that it should be under Navy control.

While the other services mentioned in your article—Lighthouse, Coast and Geodetic Surveys—have not been discussed here in this connection, I am strongly of the opinion that they all belong under one head, the Navy, and that the maritime interests of the nation, now happily becoming much more important than they have been in the recent past, will be much benefited thereby.

JOHN BARNESON.

Is the Laborer Worthy of His Hire?

In Two Parts—Part II

By Homer Joseph Dodge

WE have seen in this country in recent months thousands of men with this vast store of wealth in their sinews lay aside their tools and stop the mills declaring that they must have more money—a great supply of the tokens. We have seen them adopt the attitude that when they are working for rich men and rich corporations, the less work they do, the fewer goods they produce and the more token money they get for the time put in, the more successful they are in acquiring the wealth of the rich man. An instance which doubtless has been encountered by many thousands of persons is this: A man is engaged as a painter to paint the walls of a rich bank. He works with the utmost deliberation, availing himself of every opportunity to mingle leisure with his work. He quits precisely at the expiration of his union day. That very evening he goes to the house of a neighbor in moderate circumstances to paint his walls. In two hours he does as much work for the poor man as he has done in eight for the rich bank. Asked why, he explains that the bank represents capital, represents wealth and that it is the calling of him and his fellow laborers to get all they can of that rich bank's money for the least effort. He will explain that he works honestly for the neighbor because he knows him to be in relatively moderate circumstances—in a word, not a member of the rich class.

And yet that poor neighbor ekes out a meager salary by dividends from stock in that bank bequeathed to him by his father. His father was a carpenter who took a part of his pay for work on the bank in its stock and later invested therein a small surplus from his carpenter's pay envelope. The neighbor of the painter who was favored by his honest work will receive just that much less in dividends on the savings of his carpenter-father because of the wilful malingering of the painter in failing to give an honest day's work in exchange for the rich bank's money.

This illustration may be regarded as extreme, but it cannot be contested that the poor man's house represented capital just as much as did the palatial structure of the bank. Nor can it be contested that the bank represented labor just as much as did the hours put in by the painter. Every laboring man in the world may be assured and take the lesson directly to the heart that the value of which he cheats any employer is just so much value lost to him, never to be regained in any form. He has lost an opportunity to add to his own wealth and to that of his poor neighbors. He has diminished his children's chances to be rich.

Each Served by Thousands

Adam Smith points out that there is no man so poor but who is served by thousands of his fellow men; by more thousands of servants than served King Solomon. There probably is no laboring man in the United States so poor today but he has a coat to his back. That coat was made by a tailor from cloth dyed by a dyer, woven by a weaver, spun by a loom, carded and wound, cleaned, harvested, cultivated and sowed, or fed and tended by so many men that enumeration would be well nigh impossible. The tools employed in the various stages of these processes employed many others and cartage and vending employed many more. All of these men are the servants of the poor man who wears the garment.

Ill-content with the times, that poor man strikes and lessens the amount of output in his particular trade. By just that much he lessens the supply of service and of goods which he can tender in exchange for these manifold services of his fellow men. By just the amount he malingers and fails to produce to his full capacity he subtracts from his own possessions.

There is no conceivable manner in which he can take wealth from any one else; he is the sole repository of wealth.

On every hand we are told by the representatives of laboring men that the wealth of the world is being withheld from workers by the rich. It is obvious that a man, rich or poor, can wear but one coat at a time, can eat but one meal at a time, can consume any article but singly. There is for all and for each no more than the combined product of the nation and what we can get from other nations in exchange for a part of our product. How, then, can there be any withholding?

There are, indeed, some differences in equality of distribution, but, at bottom, these are as much within the control of the various classes as it is possible for them to be, as has been shown by the varying degrees of progress of these several classes. In fact, the gaps between the classes are being closed very rapidly. The poorest peasant wears a coat which commanded the services of almost as many men as did that worn by the richest man in the land. The only withholding which can possibly occur is that which may be practiced by the laboring man who declines to produce to the extent of his capacity. There seems to have been a feeling among some laboring people that those possessed of somewhat more in the way of goods, begrudge that which the poor acquire. This is certainly not true. No one will complain if the poorest workman go to his factory in a coach and six, provided he will produce his sufficient share. Indeed, there never has been a time in the history of the world in which there was a keener desire to see every citizen well supplied with every sort of necessity and luxury and there never was a time when there was so general a distribution.

Widespread Ownership

This extension of direct interest in the tangible and ponderable wealth—the locked-up labor in the form of objects—of this country which the working people have acquired has been greater and more rapid than the labor leader or the average man in the street will imagine.

William C. Redfield, until recently Secretary of Commerce, prosecuted some studies along this line, upon which he has reported, which reveal an amazingly large estate to the direct credit of working men, average citizens; in short, others than those who have popularly been presumed to control or dominate the great object-wealth of the United States.

Following are paragraphs from the discussion of Mr. Redfield upon the widespread ownership of the great industrial enterprises of the nation which show that when labor assails what it terms the "vested interests" it assails itself as a class to a very large extent:

"Let us look first at a familiar example from the railroad world, the Pennsylvania Railroad. This company reports on August 1, 1919, 112,261 stockholders, an increase of 618 in one month and an increase

of 8,033 in one year, and of 18,012 in two years. A normal result of this process is a steady diminution in the average holdings which, in two years, have gone down from 106 shares to 89 shares.

"Coincident with this is an increase in the number of women who are stockholders. They approximate one-half of the total number of stockholders and their share of the stock has increased to 30 per cent of the total, which means that $150,000,000 in par value is owned by women stockholders. The average of their holdings, 55 shares, is not greatly less than the total average holdings, 89 shares.

"The corporations recorded as holders of Pennsylvania stock number 988, an increase of 50 in a year but a total of less than 1 per cent of the entire number of shareholders. As long ago as the close of 1917 the twenty largest holders of Pennsylvania stock (out of 100,038 then existing shareholders) owned less than 9 per cent of the total stock of the company.

"The above facts become the more significant if the ownership by the Pennsylvania Railroad Company of the Panhandle Lines (Pittsburgh, Cincinnati, Chicago and St. Louis Railroad Company) and of the Pennsylvania Company is considered as well as its ownership of the lines connecting with the South by way of Washington and Norfolk. What has been shown to be the democratic ownership of the controlling company spreads out by reason of that control over the entire system, linking together the eastern and central parts of the country.

"From the same authority (the Interstate Commerce Commission) we learn that at the close of 1917 the Atchison, Topeka and Santa Fe Railroad Company had 44,561 shareholders. Of these, the 20 largest holders owned 491,437 out of a total of 3,445,292 shares, leaving 2,954,855 shares held by 44,541 persons, or an average holding among these last of 66 shares.

"The par value of the average holdings in the Santa Fe was $6,600, in the Pennsylvania but $4,450.

"The Southern Pacific Company emphasizes in its report for December 31, 1918, that it has 38,213 stockholders.

"Finally, the Interstate Commerce Commission reports at the close of 1917 nine large systems other than the Pennsylvania whose 20 largest stockholders, taken together, held less than 20 per cent of the shares and three other systems in which they held but 25 per cent or less. In these systems the total number of shareholders then ran from a minimum of 9,571 to a maximum of 44,561, eight of them varying between 20,549 and 37,853 shares.

"Turning from the railroads to the American Telephone and Telegraph Company, we find on December 31, 1918, 112,420 shareholders, an increase of 25,821 during the year. This, however, does not include employes purchasing stock under the plan of easy payments. Of these there were about 14,000 on December 31, 1918. To these, again, must be added persons whose stock is held in investment trusts and the like, so that the company states that there were at the time given 'probably at least 135,000 actual owners of stock in this company.'

"Further inquiry develops other interesting facts; namely, that 103,162 persons held 100 shares or less and 84,576 held 25 shares or less. On the other hand, 8,858 held from 100 to 1,000 shares each; 370 from 1,000 to 5,000 shares each; and 11 held 5,000 shares or more each (omitting brokers, holders in investment trusts, etc). On December 31, 1918, 4 per cent of the stock was in the name of brokers. The average number of shares held was 39. A majority of the company's individual shareholders are women. More than 21,000 stockholders acquired their stock under the plan to aid employes.

"The above is the first example cited in which the two movements above mentioned appear; a widespread diffusion of securities on the one hand and an increasing participation in ownership by employes upon the other. Here, also, is an average holding of but $3,900 par value throughout.

"We notice that in the Firestone Tire and Rubber Company over 90 per cent of all the employes are shareholders, and that the Studebaker Corporation has approved a co-partnership plan which permits employes to become holders of either the preferred or common stock.

"It begins to look as if these benighted souls who roll the old familiar phrases about corporate power as sweet morsels under their tongues are not only exhibiting thereby the antiquated character of their thought, showing that the world has progressed far beyond them while they still talk in terms of the past, but that these same critics are likely ere long to discover that they are attacking not a small body of what they are pleased to term 'predatory wealth' but the whole American people, workmen and employers alike, including tens of thousands of thrifty women, all of whom have become or are becoming a vital part in the ownership and management of modern corporations.

"Is this saying too much? Hardly, when one looks at the actual facts. It is not so very long since there was no such thing as the manufacture on a great scale of rubber tires. The names of the concerns prominent in this industry are household words now, but certain facts about the industry are not so familiar. When the Goodyear Tire and Rubber Company was formed there were nine stockholders. There are now over 23,000 and included in this last are 7,650 out of a present number of over 23,000 employes. The number of stockholders is steadily growing, both with the employes and among the general public.

"It is true that a statement by the Interstate Commerce Commission shows that 8,301 out of 627,930 stockholders of Class 1 railways, whose stockholders form about 97 per cent of all railroad stockholders, held about one-half of the outstanding shares of stock of those railways. This, superficially, looks like concentration of power in the hands of a relatively small number of holders. Analysis, however, shows that more than five-sixths of the number of shares held by the 8,301 stockholders were in the hands of railway and other corporations, voting trustees and estates. The great bulk, if not the whole of it, was not only held in trust or for corporate investment, so that many thousands of individuals had an indirect interest in it, but the very corporations which themselves held it were, in their turn, democratically owned to an extent which is already large and is rapidly increasing. As a matter of fact, only 8 per cent of the total outstanding railway stock is concentrated in large individual holdings and the remaining 92 per cent is either distributed among hundreds of thousands of small holders or is held in trust for or for the benefit of many millions of individuals.

"The tendency, however, toward democratizing all corporations is so strong that where that process is halted, the reason may be found in the excessive zeal of regulators who have so crippled the earning power of companies that the small investor, whose little holdings are large to him, has for the time turned aside to place funds where a reasonable return seems secure and where official regulators are less likely to break through and ignore the widespread interests of small holders.

"The popular movement appears clearly in the cases of such corporations as the United States Impovement Company, in which the number of shareholders has grown since 1889 from 140 to 13,197, more than half of the total number of shares, on July 1 last, being owned by women and estates. The records of this company show a substantially continuous increase in the number of stockholders each year for 30 years.

"The United States Steel Corporation had at its organization in April, 1901, 32,487 stockholders (18,569 preferred, 13,918 common stock). At the present time there are 152,258 stockholders composed of 78,451 preferred and 74,133 common. It is particularly interesting to note that there are now 45,963 women stockholders in this corporation, or a number nearly one-half larger than the entire number of stockholders when the corporation was organized.

"There were also stockholding employes in the United States Steel Corporation and its subsidiary companies to the number of 45,000 stockholders prior to the subscription for the year 1919. There were 59,864 employes who subscribed in January, 1919, to the stock subscription plan for the present calendar year. This included old as well as new employe subscribers. It is estimated that when these accounts are fully paid the number of employe stockholders will be largely increased. It seems safe to say, therefore, that there are at present employes of the company who are stockholders therein to a total nearly or quite one-half greater in number than the entire number of shareholders at the organization of the company. The present total number of shareholders is almost five times the original number."

The Law of Social Progress

It would be difficult to find a clearer exposition of the true relation which the working individual bears to the mass of wealth which exists in his country than that furnished by the National City Bank and, presumably, prepared by George E. Roberts, a vice president of that institution and one of the soundest economists in the United States:

"The final test for all these innovations is whether or not their effect is 'to deprive industry, foresight and sagacity of their fruits.' If so, they are not only unjust to individuals but harmful to the whole social body, because they will retard the natural progress in industry by which the general amelioration of society is accomplished.

"The most powerful agency for this progress is individual ambition and initiative. Men will strive and sacrifice for the sake of becoming forehanded and successful themselves and to make the lot of their children pleasanter and more hopeful than their own. Their successful labors accomplish results not only for themselves but for others. Society is carried forward by the efforts of its individual members. Their discoveries, inventions, devices, ideas and achievements become the common property of the community. Their individual gifts and peculiarities, and the stimulus of varying environment and outlook, enrich the common experience and promote the common progress. Society in its proper desire to maintain equality of opportunity

for all must beware of all that class of regulations which would restrict the opportunities and deaden the initiative of all. The best results for the millions are not to be had by a leveling process which takes away the rewards of individual effort, but by policies which foster and stimulate individual effort and development.

"It is common knowledge that in misgoverned countries like Turkey, where taxation is oppressive and property holdings are insecure, there is little enterprise or progress, and living conditions among the masses are far below what they are in lands where property rights and personal rights are alike carefully protected. It is also true that in the newer and rapidly developing countries, like the United States, where the chances of individual advancement are better than in the older countries, ambition and initiative are more commonly displayed in the rank and file of the population than in the older countries, the people are more receptive to new ideas and industrial progress is more rapid.

"It is fundamental that the individual shall be allowed to gather and enjoy the benefits which result from his own forethought and efforts, and this is just as true when a man has become a capitalist on a large scale as when his capital consisted of a set of tools or a quarter section farm. It may have become less important to him that his efforts shall be stimulated, but it has become of greater importance to the community, because his ability to serve the community has increased. He has the means, the experience and personal efficiency to accomplish much more than at the beginning of his career, and it does not follow that he will consume the benefits of his increased productive capacity. That is never the case. Whether he wills it or not, the benefits are widespread.

"Only that portion of his income which the owner spends upon himself and his dependents is devoted to him or them. All of the rest is devoted to the public as completely as though the title of ownership was in the State. The individual may toil, study, contrive and save, but all that he saves inures to others. He has the satisfaction that comes with effort and achievement, the sense of security in his advancing years, and of having made provision for loved ones. These are great satisfactions; men will always labor and sacrifice for them, but they are purely subjective rewards, which cost the community nothing while furnishing the chief incentive for the exertions which carry the world forward."

Decline of Money Value

The American workman and the American capitalist alike need some anodyne which will lull their antagonisms toward each other and some collyrium which will clarify their vision as to the true economics of American life today.

A month or two ago (in a paper on return cargoes from Europe and long term credits for foreign trade) I showed how the world demand for commodities had practically doubled as a result of the social liberation and the wage increases which the war brought about. The American workman and the American capitalist must both turn their attention and their most earnest efforts to the meeting of this demand. Inefficiency must cease. Governor W. P. G. Harding of the Federal Reserve Board recently pointed out that this charge of inefficiency is not more to be made against labor than against capital. He showed how the laborer who strikes and cheats in production is no more inefficient than the capitalist who devotes his money to speculative employment in the stock market or elsewhere when that money might be put to work for real and lasting constructive use.

But one more illustration of silly emptiness of capital or token money value as compared with the real value of work. Professor Irving Fisher has a favorite illustration to show the decline in the value of money. He says a servant girl deposited her savings amounting to $100 in a savings bank twenty years ago. At compound interest her money has doubled. It now is $200 in actual cash—token money. But meantime, the wages of labor and the supply of commodities has raised the level of prices of all things of usefulness 300 per cent above what they were when the deposit was made. In other words, this servant girl's original deposit of $100 is worth but $33.33 today and, even with her 100 per cent increment through compound interest, it is worth in its ability to buy the things she needs or wants only $66.66. She is a capitalist but has lost one-third of her capital in two decades.

But she has gained on the other hand. The services for which she received $10 twenty years ago now bring her $30. These services are labor. What clearer example could there be to show that her real wealth is in her labor and not in her capital? If some poorer servant girl should by violence or intrigue seek to beguile her of her savings she would be losing but the trashy purse at which Shakespeare scoffed; but were she robbed of her ability to perform wage-producing labor she would indeed be singularly bereft.

What we need in this country today is that love for excellent craftmanship on the part of the worker which inspired the medieval guild artisan. We need in our American workmen a pride of achievement in the things they produce; a thorough realization that every stroke executed by the worker adds to his own wealth and to the wealth of his country in exact proportion to the heart and skill which he puts into that stroke. The belief on the part of so many working people that they do well when they get good wages for skimped work is too reminiscent of the thieves of London who, in their vernacular, always referred to a theft as "a purchase" and described a particularly rich prize as "a bargain." This spirit in workmanship will never lead the American people to the full enjoyment of the destiny which with proper purpose, honestly performed they may win.

Elbert Hubbard's Messenger

To the Editor of SEA POWER:

Parkersburg, W. Va.—In the December number of SEA POWER I have read the first article on the "Sixth Battle Squadron," by Mr. Palmer H. Hutchinson. About the middle of the last column on page 267, the author, in referring to Capt. Victor Blue, of the *Texas*, says that the public had long read of him as the hero of Elbert Hubbard's "Message to Garcia."

I feel very sure that Mr. Hutchinson is mistaken in this. Captain Blue's exploit was a highly creditable one, he having, as Mr. Hutchinson says, gone over and explored the Santiago Harbor and definitely determined the fact that the Spanish fleet was inside. But this was not the exploit which Elbert Hubbard wrote of in the "Message to Garcia." That exploit occurred many weeks earlier than Captain Blue's exploration, and consisted in landing alone on the coast of Cuba before the American expedition had sailed, penetrating the island and getting into communication with General Garcia, commanding the Cuban insurgents. And this exploit was performed by Capt. Andrew S. Rowan, of the United States Army, who, I presume in recognition of this exploit, was made Lieutenant Colonel of the Sixth United States Volunteer Infantry in the Spanish War, and who retired from the Army as a major some ten years ago.

W. G. PETERKIN.



The Completed Navy

Three Year Program will Give Full Equality in Battleships

By E. B. Johns

BY 1923 the United States will be at least on equal terms on the sea with Great Britain. This statement is made on the assumption that Great Britain will continue its present policy of marking time in naval construction, and that Congress carries out the three-year naval program of 1916, enacts adequate personnel legislation, and develops the war emergency fleet into a strong merchant marine.

There is no occasion for startling the world with the adoption of a larger naval policy, as was urged by Secretary Daniels in his recent hearing before the House Committee on Naval Affairs and again a few days ago in executive session of the Senate committee. A careful study of the navies of the world and the plans of the great powers makes it clear that Secretary Daniels' declarations were for political purposes only. On two occasions he went before the House committee and insisted that if the United States did not join the League of Nations on the terms submitted by the President, it would be necessary for the nation to enter upon a second three-year program. Curiously enough, in both instances the Senate was about to vote on the Versailles treaty and it was apparent that the Secretary's attitude on the building program for the Navy was taken for the purpose of influencing the action of the Senate.

Our supremacy or equality on the sea will not be the result of a new policy on the part of the naval authorities or of Congress. It will really not be of our seeking. The control of the sea will be thrust upon us. We will not be building in an unfriendly spirit towards Great Britain or any other country. We will be simply carrying out a policy that was adopted before the war. Moreover, our three-year naval program has progressed to a point where it cannot be abandoned without great loss to the government and the demoralization of the shipbuilding interests. All of the ships have been contracted for or are in the process of construction in the government yards. The cancellation of the government's obligations under the contracts and the turning back of material already purchased would prove a serious blow to the business of the country.

On the other hand, Great Britain and other European nations were forced to abandon their naval programs on account of the great financial burdens which they are carrying as the result of the war. When the armistice was signed, Great Britain had under construction 1,003 ships. Since that time, she has cancelled contracts for 611 ships. Included in this list were three of the *Hood* class. One of the *Hood* class was on the stocks, and was completed. At present, Great Britain is building no capital ships. France has cancelled contracts for four super-dreadnoughts of the *Flanders* type. The building program for both England and France consists of auxiliary ships and submarines.

Japan Is Building

Japan is the only nation aside from the United States which is continuing the construction of capital ships. She has now four dreadnoughts building and four more authorized. Japan has really increased her naval program since the signing of the armistice, while the United States is only carrying out a program which was authorized and building before the war was declared. But even with her increases Japan is not yet threatening the supremacy of the United States on the Pacific Ocean. The United States can divide its Navy between the Atlantic and Pacific and still have a stronger fleet in the western waters than Japan. All that the United States will be required to do is to carry out the three-year program, and round out the fleet with the necessary auxiliaries.

The developments of the war have in no way shaken the accepted doctrine by all naval authorities that the battleship or capital ship is the backbone of a navy. In an army, a fighting force is built around the infantry. In a navy, it must be framed around the battleships or the ships that carry the big guns. The control of the sea in the final test rests upon the superiority of the battleship fleet. The development of the submarine has in no way usurped the functions of the battleship fleet. Neither does the prospective development of aeronautics threaten the supremacy of the battleship. Both the submarine and the aeroplane are being fitted into the organization of the fleet as auxiliaries by naval strategists. This is not said in an effort to detract from the importance of equipping the fleet with an adequate force of submarines and aeroplanes.

In discussing the comparative strength of the American Navy with the other navies of the world, there may be some debatable questions, but the present prospects are that its battleship tonnage will be greater than any other force when the three-year program is completed. The only advantage that Great Britain will have will be in the number of dreadnoughts. The strength of both fleets in super-dreadnoughts will be the same, each having twenty-three, but Great Britain will have ten dreadnoughts, while the American Navy will have seven of this class. The strength of the British Navy in both classes of battleships will be thirty-three, as compared with thirty for the American Navy. That this is not considered a vital element in sea-power strength is indicated by the fact that neither the United States nor Japan is building dreadnoughts. It is a general agreement among the authorities that battleships should be either of the super-dreadnought type with heavy armor, or battle cruisers with little armor and great speed.

Tonnage and Caliber

It is in tonnage and caliber of guns that the American Fleet will show its superiority. The tonnage of Great Britain's super-dreadnoughts at present is 603,750, while that of the United States is 319,300. But by 1923, when the three-year program is completed, there will be added to the American pre-dreadnought tonnage 451,200 tons, which will bring it up to 770,500 tons, or 166,750 tons in excess of the strength of the British Navy. If the dreadnoughts are taken into consideration, there is not a very great difference between the tonnage of the two nations. The British Navy has a tonnage of 172,100 in the dreadnought class, while the American Navy has only 115,650 tons in this class.

However, there will be a superiority

in the American battleship fleet which is not shown in the tonnage. Ten of the American battleships will be armed with sixteen-inch guns. Beginning with the *Maryland*, which was launched recently, all of the American super-dreadnoughts will carry sixteen-inch guns, which is a larger caliber than any in the British fleet. Both the American battleships and battle cruisers will be faster than the English ships and will be of more modern construction. Many of the lessons of the Great War will be incorporated into the construction of the new ships. Unless Great Britain resumes her naval program in the next two years, there is no doubt that the American Navy will have a stronger battleship fleet around which it can build its sea force.

"With the completion of the three-year program," said Representative Fred A. Britten, member of the House Committee on Naval Affairs and an advocate of a large Navy, "we will have the strongest Navy afloat. It will be our modern dreadnoughts with their superior gun power which will give us the control of the seas. Our Navy will be strong in the decisive factors of a sea power. It will have the punch which will be recognized as the dominating power of the sea.

"We should now give our attention to the rounding out of the fleet, the development of the merchant marine and the securing of an adequate and well-trained personnel. As far as I am concerned personally, I am going to start the fight immediately. I have been appointed a member of the conference committee on the personnel bill, and I think that the first step in securing men for the ships will be some legislation for an increase in the pay for officers and men. We cannot afford to temporize in this matter any more than to abandon the naval program which we adopted before the war. Without the men to man them, our ships will be useless and our Navy weak."

Dividing the Fleet

Japan, with its feverish haste to build up a navy, can scarcely put a battleship fleet in the water half the strength of that of the United States by 1923. Taking into consideration the super-dreadnoughts that Japan has built, building and projected, she would have a naval program of 403,500 tons, or a little over one-half the strength of the American Fleet, which under the three-year program would be 770,500. But the real comparison should be the tonnage built and building. She has now four super-dreadnoughts with a tonnage of 123,600 and is building four more with a tonnage of 128,000, which will give her a total of 251,600. If the United States were to divide its battleship tonnage equally between the Atlantic and Pacific, it would have a tonnage of 385,250 with which to meet Japan's battleship fleet of 251,600. The only ship that Japan has in the dreadnought class is one with a tonnage of 21,400, and the comparison would even be more favorable to the United States if the dreadnoughts were included, for the United States has a tonnage of 172,100 in the dreadnought class.

After the completion of the three-year program, if some other nation does not put forth an extraordinary effort, all that will be required for the United States to maintain herself on the sea against any nation will be to keep pace with the construction program of the other great powers and develop an adequate personnel and merchant marine.

The naval problems of the United States will then relate to the development of a well-rounded fleet, a well-trained and adequate personnel and a merchant marine. The Navy at last appears to be all that could be desired as far as the battleship fleet is concerned. Attention should now be directed to maintaining it on an efficient basis and the development of its auxiliaries. Its great auxiliary force will be the merchant marine.

In studying the accompanying table, due consideration should be given to the policy pursued by Great Britain in converting merchant ships into cruisers. The same policy will be followed by Japan and this must be met in the creation of the American merchant marine. Under the head of cruisers are included armored cruisers, cruisers of the United States Navy, cruisers, and light cruisers of the other navies. There is a great diversity in this type of vessels and there is really no adequate standard for comparison. The general board has recommended as a future policy the building of scout cruisers and the American Navy will not attempt to develop a fleet of light cruisers or smaller boats of this type.

The table is made up of the latest available official data and brought up to March 1. The ships authorized for the American Navy are not included, but only those which are classed as building by the Navy Department.

CLASS	GREAT BRITAIN				UNITED STATES				FRANCE				JAPAN				ITALY			
	Built		Building		Built		Building		Built		Building		Built		Building		Built		Building	
	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons
Super Dreadnought	23	576,250	None	None	11	319,300	12	454,200	3	69,531	None	None	4	123,600	4	128,000	None	None	None	None
Dreadnoughts	10	199,630	None	None	7	115,650	None	None	4	92,380	None	None	1	21,400	None	None	5	108,360	None	None
Pre-Dreadnoughts	14	214,900	None	None	14	208,500	None	None	10	165,999	None	None	6	99,800	None	None	4	49,700	None	None
Battle Cruisers	9	206,300	1	41,200	None	None	6	211,800	None	None	None	None	4	110,000	4	160,000	None	None	None	None
Coast Defense Vessels	30	301,790	None	None	16	124,885	None	None	3	31,612	None	None	7	78,166	None	None	6	59,738	None	None
Cruisers	94	545,740	9	66,230	19	162,190	13	93,000	13	143,531	None	None	18	134,500	9	45,000	10	58,000	None	None
Australia	5	27,568	None	None	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flotilla Leaders	33	56,647	2	3,500	None	None	None	None	None	None	None	None	None	None	None	None	8	10,832	6	11,385
Destroyers	381	395,551	3	3,890	181	199,500	144	174,463	64	36,803	1	870	65	51,175	24	25,800	35	22,766	10	8,740
Torpedo Boats	31	8,700	None	None	4	16,080	None	None	67	6,610	None	None	9	1,248	None	None	96	15,155	4	640
Submarines	200	181,526	12	14,220	113	57,250	48	39,850	58	34,752	9	6,078	17	6,200	18	18,900	77	21,327	8	2,556
Mine Planters	6	32,100	None	None	4	16,080	None	None	2	1,134	None	None	1	2,000	None	None	4	13,178	None	None
Aircraft Carriers	10	107,870	1	26,200	None	None	None	None	None	None	None	None	1	7,600	None	None	1	8,800	None	None
Total	846	2,854,572	28	155,240	369	1,219,435	223	973,313	224	582,352	10	6,968	133	635,689	59	377,700	246	357,856	28	23,321



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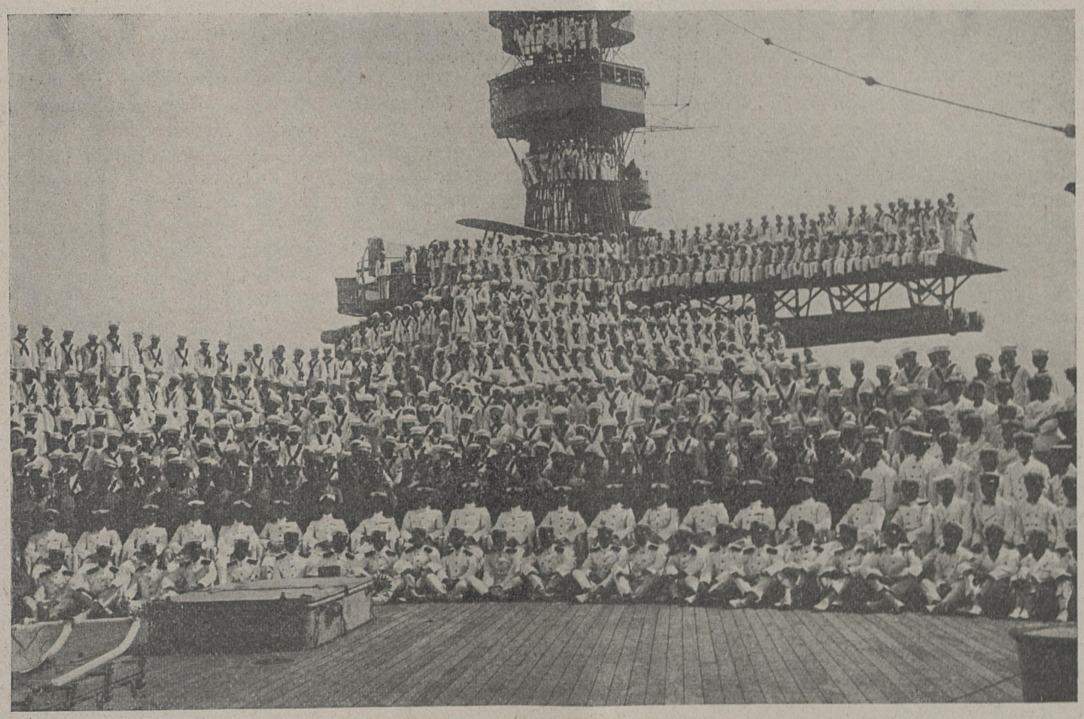

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WITH THE ATLANTIC FLEET

Above, left: Learning how to load properly the magazines of the Lewis machine guns.
Right: U. S. Sailors at practice, placing a torpedo in a submarine.
Lower: Officers and enlisted men of U. S. S. Pennsylvania aboard the flagship of the Atlantic Fleet at Guantanamo Bay, Cuba. Capt. Nulton and his staff are shown in the foreground while the gobs are perched everywhere, even on the seaplane and landing board on the guns.

A Trained Citizen Army

By SIDNEY BALLOU

A TRAINED citizen army, based upon a system of universal training, which shall fulfill the necessary duties of State Troops and at the same time provide an adequate defense for the Nation is at once constitutional, practical and economical. It can be formed upon such lines as to be the antithesis of militaristic and in full accord with the genius of American institutions.

In the first place let us consider what such an army should not be. There is an instinctive aversion to the European and particularly the German military system as it existed before the war, associated as it is with militarism in its worst form. That this aversion should be carried so far as to prejudice all forms of universal training is only because the specific evils of the European system are not generally distinguished.

The European system called for two or three years military service, not merely training, in time of peace. The difference between instruction and compulsory service in a peace-time army has already been discussed, and is fundamental. Moreover, all the European subject was expected to do was to serve for two or three years as a private in the army and then be prepared for mobilization. He was neither asked nor allowed to aspire to promotion nor to have any voice in the policy or the management of the military force. The officers were exclusively from a distinct military caste and in their hands alone were military policies and traditions.

The Fundamental Basis

Let us start our Citizen Army from the diametrically opposite standpoint. In the first place, even our Regular Army officers are drawn from the people by the most democratic method conceivable, that is by Congressional appointment to West Point. Moreover, let us boldly recognize that there is nothing in our history that justifies the presumption that all regular officers are competent to command and nothing that justifies the presumption that no citizen officers are capable of rising to high command. Ordinarily, we would not know where to look outside the Regular Army for men competent to instruct and to command, but at this particular time we have thousands of Citizen Officers of proved competency to do both. These can pass the torch to others yet to be trained. All we need to do to insure thorough democratization of the Citizen Army is to treat ability to instruct and to command as a question of fact, easily ascertainable, without regard to whether an officer is a professional soldier or whether he earns his living in civil life.

The charter members of the Citizen Army would be those officers and men of the Great War who volunteer to enroll for short periods subject to voluntary reenrollment. It would be perpetuated by receiving each year the young men of the country after they had completed their required period of training. It would be officered by both Regular and Reserve officers with a fixed minimum percentage of Reserve officers on the General Staff and with every opportunity for the advancement of Reserve officers to the highest grades for which they are qualified.

A system of universal military training would be established consisting of a four months training period for all qualified men in their nineteenth year. For those not sufficiently acquainted with the English language a preparatory schooling of two months would be required. After this training each man would be for five years a member of the organized reserve, subject to be called in an emergency declared by Congress. The only subsequent service in time of peace to which he would be liable, however, would be two mobilizations of not more than two weeks each in the five-year period.

For command of this organized reserve, including instruction in each new training camp, both Regular and Reserve officers would be available, but provision would be made for the employment of Reserve officers and reservists to the fullest extent, with the intention of gradually reducing the Regular or professional establishment to a minimum.

The National Guard

The Citizen Army as thus outlined would be raised and maintained as a Federal force under that provision of the Constitution giving Congress power "to raise and support armies." There still remains the vexed question of providing the several States with the military establishment to which they, in their sovereign capacity, are entitled.

In the first place, it will be observed that the term "National Guard" as it has heretofore been used is a misnomer. The guard has not been National. On the contrary it has always been the force referred to in the Constitution as "the Militia of the several States," sometimes, as the clause continues, "called into the actual Service of the United States." Historically the militia was the whole male population of military age, loosely organized and in this sense it is referred to in the Second Amendment, which declares:

"A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms shall not be infringed."

Out of this Militia, in its historical sense, there gradually grew up a more highly organized force, raised by voluntary enlistment, which at the time of the Civil War became known as the National Guard. Nevertheless it was still the "militia" referred to in the Constitution, and therein has lain the root of all the difficulties of the manifold attempts to make it a dependable national force.

Constitutional Difficulties

The Constitutional provisions regarding it are explicit:

"The Congress shall have power—

"To provide for calling forth the Militia to execute the Laws of the Union, suppress Insurrections and repel Invasions.

"To provide for organizing, arming and disciplining the Militia and for governing such part of them as may be employed in the service of the United States, reserving to the States respectively the appointment of the Officers and the authority to train the Militia according to the discipline prescribed by Congress."

The difficulty is twofold. In time of peace the appointment of officers and the authority to train is expressly reserved to the States. The exact limitations intended by these words are matters of some dispute, but doubtful legal questions do not make for the efficiency of an army. The practical result always has been that we have had forty-eight separate armies of forty-eight different degrees of efficiency and training, and some governors have always been found to raise questions as to the extent of their authority and to enforce their views against that of the Federal Government in time of trouble.

The second difficulty is that the only

power of the Federal Government to use the Militia against a foreign foe is confined to the repelling of invasions. This duty by no means covers all occasions where it has been found necessary to exercise force, for many national policies which have been fought for in the past and many that may have to be fought for in the future involve the use of force externally.

These difficulties are solved by recourse to another and hitherto little considered clause in the Constitution —that which provides: "No State shall, without the Consent of Congress * * * keep Troops or Ships of War in time of Peace." Obviously keeping "troops" is thus recognized as something different from and more extensive than maintaining the Militia, which is the explicit right of the States. Obviously, too, if Congress can consent to the States "keeping" a part of its troops it can prescribe terms upon which such consent shall be given.

This paves the way to the organization of a National Guard out of the trained reserve in each State. The Guard would then be composed of officers and men primarily raised and disciplined as a Federal force who should voluntarily assume a dual obligation, to render service to the United States and to render similar service to their home State. When serving as State troops they would be employed and paid by the State and be exclusively under the orders of the Governor. When called into active service by the United States their obligation to the State would be automatically suspended during the period of Federal service. In addition each State could organize its Militia as contemplated by the Constitution, a less highly disciplined force which could serve as Home Guard in those emergencies when the National Guard was called into Federal service.

The Standpoint of the Individual

Under this system the minimum obligation of the citizen would be to take a four-months training course in his nineteenth year, and thereafter remain in the organized reserve for five years subject to two mobilizations of two weeks each. In case of an emergency declared by Congress and proclaimed by the President at any time during the five years, he would be subject to military duty. All men from eighteen to forty-five would be subject, as now, to a selective draft should one become necessary.

This is the entire duty of the individual, provided he is content to remain a private, and in case of emergency go to war as such. For those who aspire to command, service schools would be provided. In these schools and in the National Guard any man who has completed his first training period would be given the opportunity to qualify himself for any rank for which he is fit.

Pending Legislation

A bill was introduced in the Senate by Senator Wadsworth, known as the Army Reorganization Bill, embodying the system above outlined. Its cost was estimated at about $600,000,000 a year, which, considering the size of the trained force which will be made available, is by far the most economical plan for adequate defense yet proposed.

This bill had the endorsement of the Senate Military Committee, the Military Training Camps Association and the American Legion. By reason of the exigencies of a coming Presidential election and the fear on the part of Congress that the country was not ready for compulsory training, this feature was stricken from the bill. Only by organized public opinion can our national legislators be convinced that the country would support, as it supported the selective draft, the only system that can insure, as far as humanly possible, that American institutions shall not perish from the earth.

The Niagara

From the *Congressional Record*

"Provided further, That the Secretary of the Navy is hereby authorized to accept, on behalf of the United States of America, from the city of Erie, Pa., free from all encumbrances and conditions and without cost to the United States Government, title to the naval brig *Niagara;* and, upon delivery of said vessel to the United States, to make expenditures from the appropriation 'Construction and repair of vessels,' for the restoration, preservation, and maintenance of said vessel in the city of Erie, Pa., including the construction of suitable facilities for anchoring said vessel and properly preserving it for historical purposes."

MR. SHREVE. Mr. Chairman and gentlemen of the House, I want briefly to tell you the story of the old *Niagara.* She lay on the bottom of Erie Harbor for nearly 100 years, and the Perry Centennial Commission of Pennsylvania, in the spring of 1913, raised the old ship. The older Members of the House here will recall that a former Congress, perhaps the Sixty-second, appropriated $250,000 toward building a monument to Commodore Perry at Put-in-Bay. That monument was to perpetuate the name of Commodore Perry, and at the same time to commemorate the 100 years of peace with our mother country. Ten States of the Union joined with the National Government in that enterprise. They were the States surrounding the Great Lakes, and also Massachusetts, Rhode Island, Connecticut, Mississippi and Louisiana, if I remember correctly.

I do not propose to tell you the story of what happened in that year, but I want to tell you that the old *Niagara,* raised from the bottom of Erie Harbor, sailed out of that harbor on the 1st day of July and visited every important port around the Lakes, where centennial celebrations were held by the various States, and in the city of Chicago alone 100,000 school children visited the old ship. I do not propose to tell you the story of the *Niagara,* how she was constructed in Erie Harbor, how she went out and met the enemy, how Commodore Perry, in the thick of the battle, when the *Lawrence* was disabled, left that ship and in a small boat transferred to the *Niagara;* how she became the flagship, and how in a short time the supremacy of America was established on the Great Lakes and the great Northwest Territory returned to the United States.

But I do want to tell you one thing, and that is on the day following the battle, when the fleets lay in Put-in-Bay Harbor, both sides preparing to bury their dead, and at 4 o'clock in the afternoon Commodore Perry, with his officers and men, and Commodore Barclay, of the British fleet, with his officers and men and their dead, lowered their small boats and moved to the shore. Their landing was picturesque. The place selected for burial was dug beneath the foliage of an old elm tree, and these men, British and American alike, two by two, marched back to this burial place. There those men were buried, a volley was fired, and they returned to their ship. The remains of those men, American and British, side by side, rested there for a hundred years, until they were removed and placed in the vault of the great memorial at Put-in-Bay, an achievement without parallel in the history of the world, an accomplishment that should give war-stricken Europe of today a hope for a better tomorrow.

Treaty Differences Negligible

[*Senator Owen in Debate*]

MR. PRESIDENT, the resolution of ratification is now before the Senate with reservations:

Safeguarding the right of withdrawal for the United States (Sec. 1).

Forbidding the acceptance of a mandate except by the act of Congress (Sec. 3).

Protecting the domestic affairs of the United States from interference (Sec. 4).

Safeguarding the Monroe doctrine (Sec. 5).

Reserving full liberty of action as to Shantung (Sec. 6).

Forbidding persons to represent the United States under the peace treaty except by authority of Congress (Sec. 7).

Withholding assent to any interference in the business between Germany and the United States by the reparation commission, except with the approval of Congress (Sec. 8).

Forbidding expenses to be incurred without the previous consent of Congress (Sec. 9).

That the limitation of armaments is subject to congressional action (Sec. 10).

Reserving the right to permit foreign citizens under article 16 to do business in the United States (Sec. 11).

Protecting the rights of the citizens of the United States in Germany (Sec. 12).

Withholding assent to the labor provisions of the treaty unless Congress acts (Sec. 13).

Withholding assent to decisions of the council or assembly unless the United States be given six votes, or a vote equal to any other country (Sec. 14).

Expressing sympathy for Ireland (Sec. 15).

There is no great harm in any of them. There is, perhaps advantage in some of them.

There is considerable partisan politics in some of them; but, on the whole, they will meet the fears of many who have been led to believe that without such reservations our interests might possibly be interfered with or injured.

The only reservation of great controversy is No. 2, relating to article 10, which is as follows:

"The United States assumes no obligation to preserve the territorial integrity or political independence of any other country by the employment of its military or naval forces, its resources, or any form of economic discrimination, or to interfere in any way in controversies between nations, including all controversies relating to territorial integrity or political independence, whether members of the league or not, under provisions of article 10, or to employ the military or naval forces of the United States, under any article of the treaty for any purpose, unless in any particular case the Congress, which, under the Constitution, has the sole power to declare war or authorize the employment of the military or naval forces of the United States, shall, in the exercise of full liberty of action, by act or joint resolution so provide."

On this reservation the Senate gave its approval by a two-thirds vote—54 to 26. All of the Republicans and half of the Democrats voted for it.

Besides this, at least 11 senators, known to favor this reservation, did not vote, making 65 senators who are known to favor it, more than two-thirds of the entire Senate. And there are over 80 Senators who are known to be willing to ratify the covenant with reservations, but who decline to reconcile their differences and permit the enemies of the treaty to defeat it by joining with Democratic Senators who refuse the Lodge reservations.

The opinions of the Senate, speaking through a more than two-thirds vote, is entitled to respect.

Mr. President, the Senate of the United States under the Constitution of the United States is jointly with the President, the treaty-making power, established by the people of the United States.

The Constitution in fixing the powers of the President declares:

"He shall have power, by and with the advice and consent of the Senate, to make treaties, provided two-thirds of the senators present concur."

Senate Not Consulted

In the interpretation of the Constitution, Presidents Washington, Adams, Jefferson, Jackson, Lincoln, Grant and various of his successors sought the advice of the Senate in pursuance of the Constitution before framing treaties. In the case of the pending treaty, the advice of the Senate was not sought or invited. But the instrument has been framed with the advice and under the powerful influence of various foreign diplomatic representatives, representing Great Britain, France, Italy, and other countries, without the Senate being permitted to participate in the framing or in advising the President in the framing of the most important treaty ever drawn in the history of the world.

I thought it was well drawn considering the very great difficulties under which it was framed and I was, and am now, willing to give my assent to it, and certainly during its formation without being invited I presumed to volunteer advice on numerous occasions in the hope of being of service. Some of the friendly counsel might have served a useful purpose if it had been accepted.

I advised the President not to ignore the Senate in framing the peace treaty. I advised him to invite with him representative senators. I advised him to keep the Senate fully advised of the steps taken at Paris through the State Department. I do not mention these things in criticism of the President but merely to put in the *Record* the truth that I did what I could as his friend and associate to safeguard the President from the complications which I thought might ensue.

The President had a task of enormous difficulty, which I keenly realized, and I believe he went to the limit of his powers and of his understanding to serve the people of the United States and the people of the world in framing this great treaty.

If the treaty proves not to have been perfect, it should be remembered that the influences and the powers which the President had to meet in a foreign land were very powerful.

I think, however, that the opinion of 65 United States senators, representing the various States of the Union, are now entitled to the respect of the President, and that he should not weigh lightly or contemptuously their expressions of opinion as recorded in their votes.

The President, in his letter to Senator Hitchcock on March 8, 1920, said:

"I have been struck by the fact that practically every so-called reservation was in effect a rather sweeping nullification of the terms of the treaty itself. I hear of reservationists and mild reservationists, but I can not understand the difference between a nullifier and a mild nullifier."

Every senator comes under the sweeping condemnation of the President of the United States, because every single senator, without exception as far as I know, has voted for reservation after reservation.

Astounding Similarity

And here let me pause a moment to point out the astounding similarity of the Republican and Democratic reservation to article 10, over which an irreconcilable partisan conflict has been waged. Here is the so-called Lodge reservation:

"The United States assumes no obligation to preserve the territorial integrity or political independence of any other country by the employment of its military or naval forces, its resources, or any form of economic discrimination, or to interfere in any way in controversies between nations including all controversies, relating to territorial integrity or political independence, whether members of the league or not, under the provisions of article 10, or to employ the military or naval forces of the United States, under any article of the treaty for any purpose, unless in any particular case the Congress, which under the Constitution, has the sole power to declare war or authorize the employment of the military or naval forces of the United States, shall in the exercise of full liberty of action, by act or joint resolution so provide."

And what does the reservation for which all the Democrats voted provide? This is the Simmons resolution:

"The United States agrees to use its friendly offices, when requested so to do, under the provisions of article 10, in assisting to procure a just and peaceful settlement of territorial or political controversies between nations, or to protect any member of the league from external aggression——"

We have that right, anyway. We do not have to put that in the treaty. That is an international right. That is the international law. But now, listen to the balance of the Democratic reservation, if you please——

"but it does not assume any obligation to use its military or naval forces or its financial or economic resources for the purpose of intervention in the controversies or conflicts between nations, or to protect the territorial integrity or political independence of any nation under the provisions of article 10, unless in any particular case the Congress, in the exercise of full liberty of action, and in the light of full information as to the national justice and human right involved, shall by act or joint resolution so provide."

This language is identical in meaning with the Lodge reservation. The omission of the phrases of the Lodge reservation, to-wit:

"or to employ the military or naval forces, under any article of the treaty for any purpose——"

And—

"which, under the Constitution, has the sole power to declare war or authorize the employment of the military or naval forces of the United States——"

do not change the meaning except in the mind of an expert metaphysician and skilled wrangler. As far as article 10 is concerned the Simmons reservation, for which all the Democrats stood, is the same as the Lodge reservation.

I say that the difference between those reservations is nothing. It is a case of tweedledum and tweedledee, unworthy of the respect of the country; and to tell me that I should be called on, as a matter of party loyalty, to defeat this treaty because of the difference between the Simmons' reservation and the Lodge reservation, I denounce as unmitigated nonsense. I will not stultify myself by pretending that there is any substantial difference. There is none; and yet this *Record* is here showing that the Democrats voted for the Simmons reservation, and wish to make a great distinction about it. The differences are negligible.



U. S. Navy Official Photo, Underwood & Underwood.

U. S. Destroyer Isabel laying a smoke screen. A large number of the destroyers are now off the coast of Cuba for extensive battle maneuvers.

NAVY WAS UNPREPARED

(*Continued from page 213*)

were delayed through the difficulties in getting action. That these difficulties made the Navy's task much harder is certain; what the resulting delays cost in lives and treasure no one can even guess."

Tribute to Navy League

Following Captain Laning, Captain Palmer, who was aide for personnel in the Navy Department beginning in 1916 and continuing throughout the war, testified that upon taking up the duties at the head of the Personnel Bureau it was necessary for him to reorganize the office. Shortly after taking up his duties, the 1916 bill authorizing an increase in the personnel of the Navy was passed and recruiting was undertaken and pushed with the utmost vigor so that enlistments rose from practically nothing to 31,000 in January 1917. In this recruiting campaign, Captain Palmer said he received most hearty coöperation from numerous sources. A great many civilian organizations came to his help, among them the Navy League, which placed its entire organization at his disposal. Captain Palmer took pains to pay a tribute to the League and mentioned particularly the League's offer to provide a training station when such was greatly needed, but could not be provided because of technicalities in the law.

In the efforts to secure recruits for the regular Navy, Captain Palmer generally received the support of the Secretary of the Navy, but on no less than one half-dozen occasions the Secretary ordered that the recruiting of Naval Reserves be discontinued. Each time Captain Palmer had some new and urgent reason to explain why the Secretary's order had not been obeyed and these reasons were evidently entirely satisfactory to the Secretary, for he not only did not remove Captain Palmer, but in speeches throughout the country, he always pointed with pride to what the Navy had accomplished. It is true the Secretary opposed the use of retired naval officers for recruiting, but that was a minor detail. As to the part played by the reserves in the war, Captain Palmer testified that by October 31, 1918, there were 290,000 men in the Naval Reserve, 30,000 of whom were officers.

Regarding the shortening of the course at Annapolis so that naval officers might be supplied more rapidly, Captain Palmer testified that when the proposition to reduce the course to three years was presented to the Secretary of the Navy, the latter disapproved the plan and wanted to increase the course to five years, but of course, it is a matter of record, the Secretary was prevailed upon and finally changed this decision and accepted the three-year course.

Apart from the investigation, there is one part of Captain Palmer's testimony that should be impressed upon Congress in particular and upon the people of the country in general and that is the necessity of planning ahead to provide personnel. As ships are authorized, personnel to fight these ships should be authorized. Captain Palmer testified that he recommended that provision be made for personnel at the same time that our three-year building program was authorized. It was the same old story, the Secretary opposed this.

Captain Palmer's testimony may be summed up in the sentence which he used when he said that a great deal of unpreparedness of the Navy was due to the fact that "The Secretary looked at the matter from the point of view of the educator while naval officers looked at it from the point of view of the good of the Navy." Concerning Admiral Sims' criticism that he was not allowed to enroll Americans as officers in Europe, Captain Palmer shouldered the entire responsibility for this, saying he did not think it best from the point of view of naval intelligence.

Captain Palmer also testified that at no time during the war was he furnished with an outline of the future plans so that he might prepare the personnel to meet the situation. This being so, he adopted the course of training as many men as could be crowded into the limited facilities provided by the Navy, and to provide more facilities, unknown to and over the opposition of the Secretary.

Admiral Plunkett on Personnel

Admiral Plunkett, who was director of gunnery during the war and who in the summer of 1918 took the 14-inch naval land batteries to France and had them in operation during the Meuse-Argonne offensive, testified that when he took over the direction of gunnery under the Chief of Naval Operations in December, 1915, he went to Mr. Daniels and stated in the most positive manner, "There could not be a gunnery without people, and we did not have the people." The Admiral testified that from first to last he argued with the Secretary for two years, "without ever making any impression upon him whatever." Because it might seem odd that a subordinate officer should deal directly with the Secretary of the Navy, Admiral Plunkett explained that the Chief of Naval Operations, Admiral Benson, having "exhausted all the talk he had in his system," told Admiral Plunkett, "If you can get them (personnel) go and get them. I cannot get them."

Admiral Plunkett's further testimony was to the effect that the gunnery on the ships we had in actual commission was developed to a fair state by the outbreak of the war, but because so many of the gun crews were taken for duty on merchant ships, the efficiency of the battleships was thereby greatly reduced. Of course, there were no trained gun crews, or personnel of any kind, for that matter, for the ships in reserve at the outbreak of the war.

The personnel situation was very acute, Admiral Plunkett says: "The

Recruiting By Navy League

Excerpt from a letter from United States Naval Recruiting Officer, Kansas City, Mo., April 28, 1917.

"Before the Navy League started its recruiting campaign, the National Guard and other organizations had everything for recruiting men while the Navy lacked all of these things and was almost unheard of. The Navy Department could not supply nearly enough money, advertisements, display material or men to meet the needs of the situation. The number of enlistments for weeks for Kansas City at that time were as follows:

"Week ending March 15, 1917, 17 men; week ending March 22, 1917, 14 men; week ending March 29, 1917, 40 men.

"The Navy League then appointed a committee, raised a fund of about $5,500, and began its recruiting campaign . . . Recruiting then improved as follows:

"Week ending April 5, 1917, 105 men; week ending April 12, 1917, 313 men; week ending April 19, 1917, 448 men.

"On April 18, 1917, Kansas City filled the quota of 800 men assigned by the Navy Department for this station to raise by April 20 and Kansas City was the first city in the United States to fill its quota, and for week ending April 19, 1917, had more enlistments than any other city in the entire United States."

truth of the matter is that if we had been up against Germany at the outbreak of this war, we would have been paying the indemnity today instead of their paying it—and all because we did not have a sufficient personnel. The reason we do not have them is because Mr. Daniels would not let us get them. He would not let us argue with the committees in Congress; would not let us do anything toward getting more men, in spite of the fact that everybody from the top clean through to the bottom knew that we must have men * * * I have never acquiesced in any of the reports that we were ready from stem to stern and I do not acquiesce in any report today that indicates in any way that our fleet was anything but a wreck of what it was."

"A wreck today?" Chairman Hale interrogated. And Admiral Plunkett emphatically responded:

"Right now—today."

Admiral Grant on Submarines

The committee, having heard the points of view of the officer commanding in European waters, and of three officers from within the department, next called admirals of the fleet.

Admiral Grant, who commanded submarine flotilla of our fleet prior to the declaration of war by the United States and Force One of the fleet during the war, testified that when war came, we did not have a single submarine capable of performing the duties required of submarines in war. This was because he could get very few people in the Navy to listen to him when he talked submarines. The general board as well as the Secretary would not countenance his recommendations for fleet submarines.

Concerning the battleships he commanded during the war, Admiral Grant said he would have engaged the enemy if they had escaped from Kiel, but the prospect would have been extremely dark. He had at first seventeen and later twenty-four battleships in his force. All of the former were of the predreadnought type. Practically all of them were in reserve when board was so much below the number war was declared. The personnel on board was so much below the number required that the guns and machinery on board had greatly deteriorated. Not one of them could have remained afloat after a serious internal explosion, the Admiral declared. But these old battleships were hastily manned, for the most part with recruits, and put to sea. A ten-day limit was set for ships to remain in yards. And the mission assigned was "to be ready to fight the enemy." A secondary mission of training personnel for other ships was also carried out in a most creditable way. It is lucky that Force One was not called upon to meet a trained enemy.

Mayo Takes Issue With Sims

Admiral H. T. Mayo, who commanded the United States battle fleet throughout the war, read a fifty-page prepared statement, nearly all of which was devoted to a defense of the work of the fleet under his command. The following facts from this statement, however, are pertinent to the inquiry being conducted by the subcommittee of the Senate Naval Committee:

He testified that the fleet attained the greatest efficiency it has ever known in the winter of 1916. This fleet, however, did not include the 17 pre-dreadnoughts which were afterwards assembled into Force One under command of Admiral Grant. Admiral Mayo disagrees with Admiral Sims in a number of particulars. While admitting that we were unprepared to enter into the war, he believes that the fault can be placed nowhere in the Navy Department, but must be attributed to the policy of pacifism to which the country was committed even as late as the elections of 1916. Concerning Admiral Sims' emphasis laid upon the accurate information that could be furnished regarding the movements of submarines, Admiral Mayo testified that this intelligence was not perfected until the latter part of 1917 or the early part of 1918. Concerning Admiral Sims' statement that the critical area—what is called the war zone around the British Isles—was the place to concentrate destroyers, while correct in principle, was overstated as to importance because when our destroyers were stationed at Queenstown, the British destroyers were immediately withdrawn for duty elsewhere. Concerning Admiral Sims' criticism that when the department finally approved the Admiralty's request for four coal-burning ships to add to the Grand Fleet, these ships had to be put in dry dock before they could be sent across, Admiral Mayo testified that the demand for these battleships was not urgent and the sensible thing to do was to send them over in as spick and span condition as possible. He further said that he was not in a position to give an opinion upon such of the Admiral's testimony as declared that the Department had failed to approve and immediately carry out his recommendations and with regard to placing officers in important command without first obtaining his approval.

What is most important perhaps in Admiral Mayo's testimony is that he makes the point that the laws and regulations under which the Navy was operating during the war and is operating under today are unsatisfactory.

The functions of the General Board and of the Chief of Naval Operations overlap, but neither has authority to affect the other. "The Chief of Naval Operations," Admiral Mayo goes on to say, "has no authority to coördinate the work of the bureaus whose business it is to supply and maintain the material and personnel. The general board has no executive functions.

"Under such regulations, coördination of the various officers, boards and bureaus can be obtained only by voluntary coördination or through the civilian secretary.

"Responsibility for the readiness of the Navy for war," he says, "cannot be placed anywhere, but with the Secretary of the Navy, who under the present organization must coördinate 13 officers, boards and bureaus. * * * In my opinion the faulty organization of the Navy Department and the absence of definite foreign policy, except that of strict neutrality, were the primary cause of failure to prepare the Navy for war. After money was appropriated, and after the bureaus voluntary coördinated with the chief of naval operations, the work was pushed with energy and vigor."

Admiral Fiske on "War Plans"

Admiral Bradley A. Fiske, who as Aide for Operations from February, 1913, to May, 1915, held the highest place in the Navy Department, and who was forced to resign that office because he insistently urged preparedness to the Secretary, testified that he "knew that the Navy was not only unprepared in personnel and material, but that it did not have any plan for even entering an important war." Better than this he has again come forward with sound constructive criticism and placed before the Senate Committee on Naval Affairs once more the Swift Report rendered in 1908 by Admiral A. T. Mahan and others looking to a coherent organization in the Navy Department. All of Admiral Fiske's testimony should be read by every Senator and Member of Congress.

Beginning by pointing out that Germany, with a smaller army, with less training, and fewer experienced general officers, defeated France in 1870, because the Germans had a war plan, Admiral Fiske then testified that every Army and Navy of every military power in the world had adopted the

war plan idea. The United States is not a military nation, to be sure, but its Navy, then the third largest afloat, had no plans whatever. Letters and comprehensive plans were produced by Admiral Fiske to show that the situation had been presented to Mr. Daniels early in the spring of 1913. He was urged to institute a system "which provided that the various bureaus and the Department itself should coöperate toward preparedness by means of a system of reports which each bureau should make to the department once every three months, in regard to the status of the bureau in preparedness. I was unable to get the Secretary to approve the administrative plan, during my entire term of office with him, though it lasted for more than two years. I frequently brought it to his attention, and asked him to sign it, pointing out that until he had signed it, it was utterly impossible for the Navy even to start toward a state of preparedness, and that it was necessary for him to sign it as soon as possible, because, even after he had signed it, it would take several years before war plans could be made and developed, and the Navy got ready in accordance with them. On every occasion the Secretary declined to sign the paper."

Even after war was general in Europe "nothing had been done toward preparedness, and the Secretary's principal concern throughout was the work that he was outlining for an aide for education."

No planning division was started in our Navy until August, 1918, and no war plans division was started until August, 1919.

Admiral Fiske also gave the details of the fight made by Congressman (formerly Admiral) Hobson and of the Navy as a whole to have the office of Chief of Naval Operations created; how this office was finally authorized by Congress, although insufficient provision was made for assistants; how, after the office had been literally forced upon the Secretary, he took full credit unto himself for the measure; and how finally the Secretary had appointed to the office Captain W. S. Benson.

Concerning Captain Benson's appointment, Admiral Fiske said; "At this time the Navy was wholly unprepared for war, and I was sorry the Secretary had not appointed as my successor an officer who had had experience on the general board or on the staff at the War College."

Chairman Hale also brought out that although Admiral Fiske is the inventor of more appliance for naval warfare than any other person in or out of ours or any other navy, his services were not called for by Mr. Daniels during the war.

Admiral Fullam Testifies

Rear-Admiral W. F. Fullam (retired), made an elaborate review of the Navy's condition of unpreparedness. Following is a summary of his statement:

1. That the armored cruisers and certain fast cruisers in the Pacific were unprepared for war.

2. That these vessels would have been of great value for scouting and screening duty with the battle fleet, especially as we had no battle cruisers or scout cruisers in the Navy.

3. That the Navy Department did not initiate any measures to provide the necessary men and officers to get these ships away from the docks during the period from October, 1915, till war was declared in April, 1917.

4. That the Navy Department did not announce nor outline any policy whatever, nor coördinate the various bureaus of the Navy Department looking to the material preparation of these vessels for war until September 30, 1916, and then *only* after eleven months of unceasing correspondence and effort by the commander of these vessels and after he had written a letter to the Department, dated September 14, 1916, calling the attention of the Department to the fact that it had completely failed to outline a policy or to coördinate the bureaus and thus make it possible to get these vessels in material readiness for battle.

5. That the commander of the Pacific Reserve Fleet himself initiated every measure by which these vessels were partially manned and enabled to leave the docks and cruise at sea.

6. That the Navy Department failed to approve recommendations of the force commander, which, if adopted, would have provided the officers and men necessary to fully man these and other vessels that were called into service when war was declared.

7. That the office of operations and the bureau of personnel did not or could not coördinate in the work from 1915 to 1917, that was absolutely necessary to provide crews for these vessels.

8. That the failure of the Navy Department to get these vessels ready for war was not the fault of officers or bureaus of the Navy Department, but was due primarily to the fact that the organization of the Navy Department was faulty, that it had no war plan, and that it was not and had not been the policy of the Navy Department, in the years from 1913 to 1917, to prepare the United States fleet for war as regards all of its units.

9. That the Navy Department did not outline adequate measures for the proper coördination of the fleet, the naval districts, and the Army for defensive purposes in the Pacific.

10. That the commander of the reserve force and the Army commanders of the Pacific coast defenses united in February, 1917, two months before the war, in recommending certain measures, which, had they been promptly approved, would have secured coördination.

11. That Army and Navy commandants in the Pacific were all of them anxious to coördinate, but the attitude of the Navy Department left them in doubt as to its policy until six months after the war was declared, and then only as a result of a correspondence that had continued for eight months.

12. That the Navy Department objected to local joint boards of Army and Navy officers in each port, without which it was practically impossible to secure effective coördination.

13. That this question of complete and well organized coördination is a matter of vital importance in the defense of the coasts of the United States.

14. That there was such a shortage of small arms and machine-gun ammunition in the Navy that target practice with such arms for six months, from September, 1917, to March, 1918, was forbidden and many thousand enlisted men were not instructed with arms.

Shortage of Guns

15. That there was a shortage of guns for ships in the Navy, and no guns of 4-inch caliber and above were available for the Pacific until the spring of 1919.

16. That there was a shortage of torpedoes in the Pacific and insufficient facilities and personnel to test and prove the torpedoes of the armored cruisers or to supply certain submarines and destroyers bound from the Pacific for the war zone.

17. That ships passing through the Pacific from the Asiatic and Honolulu were not properly manned and would have met inevitable defeat in battle with enemy vessels of the same class whose complements of officers and men were complete.

18. That there was no aviation service in the Pacific and no station for the training of men in aviation until many months after war began.

19. That the Navy as a whole was unprepared in aviation, because the Navy Department had failed to act favorably upon the recommendations

of Admiral Fiske made in 1913, and because the department and Congress had cut down the estimates made by the director of aeronautics.

20. That the fleet of the United States, as a *whole,* was not prepared to line up for battle in 1917 against a well organized and fully manned fleet, such as the two fleets that met in the Battle of Jutland, because of the lack of battle cruisers, scout cruisers, armored cruisers, light cruisers, destroyers, submarines and other auxiliary forces that are needed in coöperation with the battle fleet proper, and because there was such a shortage of personnel, officers and men, that our ships would have been forced to fight with untrained crews.

21. That the main cause for the unpreparedness of the Navy in 1917 was the faulty organization of the Navy Department and the fact that officers of the Navy had not been directed, encouraged, or even permitted to exert themselves in preparing for war.

22. That the aid system of organization originally recommended by Admiral Mahan and a distinguished commission appointed to frame a departmental organization, had been wrecked, and the Office of Operations had not been fully empowered or permitted to prepare and to coördinate all naval bureaus and agencies in the work of preparing plans, providing personnel, and making the fleet as a whole ready for war.

23. That the policy of ignoring naval officers of high rank, as regards their recommendations to secure the fighting efficiency of the Navy, is absolutely fatal and is a knife that cuts deeply and in various ways that are injurious not only to the efficiency of the Navy, but to its morale.

24. That the policy of silencing naval officers of high rank concerning the defects of the Navy, deceives the people as to the true conditions of the service.

25. That the reports circulated in this country that there is or has been caste or aristocracy in the Navy are not justified, and that these erroneous ideas have injured its discipline and morale in that they have reflected unjustly upon the officers of the Navy, who have always had the best interests of their men at heart, and who know far better than anybody else possibly can what is best for the men and for the Navy as well.

26. That the Navy has always been as democratic as it is possible for a military service to be and preserve proper discipline and respect for authority; and that the traditions established by John Paul Jones, Decatur and Rodgers, and perpetuated by Farragut, Porter, Dewey, Sampson, Mahan, Evans and others, cannot be stigmatized as a system of aristocracy and caste without wrecking the Navy.

27. That officers of the Navy have always had an interest in the education of their men; have always extended aid, assistance and hearty encouragement to every deserving man under their command, and that any tendency to divide the Navy personnel into classes, antagonistic one to the other, will not *democratize,* but will thoroughly *demoralize* the Navy.

Supremacy of Civil Power

28. That naval officers believe in the supremacy of the civil power in this country; that they prefer a civilian rather than a military head, or Secretary of the Navy and that, fully recognizing his authority and the respect due to him as the representative of the President, they only ask that they may be treated with the consideration and the respect that is properly their due, and that they be permitted and encouraged to work for the fighting efficiency of the Navy in order that it may be ready at all times for war.

29. That personal or official subserviency shall not be demanded of naval officers as the price of preferment in the Navy, but that ability, zeal, and devotion to duty shall be the recognized qualifications for promotion and assignment to important stations. That failure to recognize this fundamental principle will ruin any military service, array officers against each other, inspire suspicion, invite sycophancy and surrender of independence, and place mediocrity above ability.

30. In concluding this statement concerning the preparedness of the Navy for war as regards both personnel and material, it is only proper to state that the officers and men of the Navy were and always have been individually ready for war; that the unpreparedness of the Navy for war in 1917, was not primarily the fault of any officer or officers, but that it was due to the fact that the Navy Department as a whole declined or failed to adopt policies which demanded, or even permitted officers to prepare the Navy for its duty as a fighting machine.

31. That the officers and men of the Navy, both regular and reserve, did their whole duty with great gallantry and devotion is admitted by everybody, and that they contributed loyally to the winning of the war is also beyond question. That the bureau chiefs were in no sense responsible for the lack of preparedness of the Navy Department and that they accomplished wonders as soon as their hands were free, cannot be denied.

32. That we escaped disaster was plainly due to the fact that the enemy's fleet, with the exception of submarines, had been driven from the sea before we declared war against Germany. Furthermore, it is important to recognize that we had no naval war in the full sense of the word. No admiral led an American fleet into battle. Not one American ship fired a single gun at a German ship, and not a German ship fired a single gun at an American ship, with the exception of a few engagements between German submarines and our destroyers, armed merchant ships, and small craft, and noting the gallant little fight made by our sub-chasers at Durazzo. It was a war without naval battles.

33. In other words there was, strictly speaking, less sea fighting than in the war with Spain, and the Navy of the United States was not fully tested as to its readiness for battle nor as to the adequacy of all its units to meet the emergency of war had Germany's fleet been free to take the sea against us.

34. Escaping as we did by our great good fortune, in that the German fleet never appeared after the battle of Jutland in June, 1916, it is the duty of every naval officer who realizes the actual conditions of our unpreparedness to tell the truth upon the occasion of the investigation of the conduct of the war by a coördinate branch of the United States Government, in order that the people of this country may no longer be deceived and that the United States may not again be threatened by the inexcusable failure of the Navy Department to prepare the fleet in all respects for sudden war at any time in the future.

Face the Facts

35. The time has come to face the facts and to ask this question: Was the fleet of the United States, with all its units and auxiliaries; with its available supply of ammunition, torpedoes, mines and submarines; with no battle cruisers, no scout cruisers, and with a pitifully inadequate force of scouts and destroyers; with an air service composed of only 45 trained aviators; with its ships largely manned with green, untrained men and reserve officers of little naval experience; was this fleet so constituted even though its officers and personnel were unexcelled in the world for bravery and devotion to duty, was this fleet in all respects in readiness in the spring of 1917, or at any time during the World War, to line up for battle

against the German fleet with a fair chance of victory, taking into account the cold facts as shown when the British fleet met the Germans at the Battle of Jutland? The commanders-in-chief of our fleets must gravely consider the facts and answer this question with solemn regard for the consequences. If we were in all respects ready to defeat the German fleet as it existed at Jutland in June, 1916, the Navy Department may claim the credit for our preparedness; if we were *not* in condition to beat the German fleet in April, 1917, the Navy Department alone is responsible for neglect to prepare for that battle during the four preceding years.

36. The articles for the Government of the United States Navy, found in the Revised Statutes—laws passed by Congress to fix the duties and responsibilities of officers of the Navy—contain the following provisions:

"That a commissioned officer of the Navy being in command of a fleet, squadron or vessel acting singly, who neglects when an engagement is probable, or when an armed vessel of an enemy or rebel is in sight, to prepare his ship for action; or does not accord all practicable relief and assistance to vessels of the United States or their allies when engaged in battle, shall suffer death or such other punishment as a court-martial may adjudge."

37. But a naval officer's duty does not, or should not, begin and end in battle, nor in time of war. He has duties and responsibilities before the war and before the battles begin. And it should be clearly understood that any officer of the Navy who sits supinely or subserviently idle and indifferent when an armed enemy nation with an efficient fighting navy is in plain sight (and has been for years), and fails with energy to prepare and to urge others to prepare his country's Navy for war, when he knows or should know that it is unprepared in every respect, is unworthy of his cloth; that he is neglecting his first duty, fails to measure up to the standards of the American Navy and is deserving of a more severe punishment than a captain who fails to prepare a ship for battle. The neglect in time of peace to prepare the great Navy of a great nation for battle imperils the whole country, and for this reason the offense is the more reprehensible.

38. The experience of the past demonstrates clearly, if we probe for the facts, that in throttling and ignoring officers of high rank who are seeking zealously and patriotically to prepare the Navy for war, the real truth concerning the Navy may be suppressed, the public may be deceived and as an inevitable result the Navy may be placed in a condition of unreadiness involving danger of humiliating and disastrous defeat, or that it may fail to put forth its best efforts in affording "all practicable relief and assistance to our allies" when engaged in war.

39. The Navy of the United States was not properly prepared for war in April, 1917. The question is, shall such a condition be permitted to exist again in the future.

On cross examination by members of the sub-committee, Admiral Fullam developed the following points:

Secretary Discouraged Aides

That Secretary Meyer regarded the Navy as the first line of the Nation's defense, attempted to develop its fighting efficiency, and did not regard the Navy as a political factor. He stated that Secretary Daniels neither initiated nor encouraged measures looking to the fighting efficiency of the Navy. Even his own aides at the Navy Department were discouraged to bring such matters to his attention, and for this reason Admiral Fullam, when war was threatened with a foreign power in 1913, presented a memorandum of measures that should have been immediately adopted, to Assistant Secretary Roosevelt, believing that it would be futile for any naval officer to bring these matters to the attention of the Secretary; that Mr. Roosevelt presented the matter to the Secretary and secured approval of some of these measures.

Admiral Fullam stated that he had been Secretary of the Mahan-Moody Commission for the reorganization of the Navy Department in 1908, and that the aide system was strongly advocated by Admiral Mahan and the Commission of distinguished civilians and admirals, the object being to secure in some measure "miliary control of the Navy from the sea rather than from the beach."

Notwithstanding the work of Admiral Mahan and this distinguished Commission, Mr. Daniels wrecked the aide system in defiance of such distinguished authority.

In reply to a question, Admiral Fullam stated that the navies of France and Great Britain were controlled in great measure by civil power. In this connection he showed that the efficiency of the French Navy had been practically destroyed by the administration of Camille Pelletan, who "debased the military element and introduced politics into the navy and in the end left his department in a state of chaos." In other words, in his attempts to "democratize" the French Navy, he only succeeded in demoralizing it by methods decidedly analogous to those that were followed by Secretary Daniels.

Concerning the civilian control of the British Navy, it was demonstrated that the First Lord of the British Admiralty, though a civilian, would not and could not injure the fighting efficiency of the British Navy because the sentiment of the people would not permit such a policy, and the power of the First Lord is limited by the provision that he must consult and work in conjunction with the Sea Lords in the military control of the British Navy.

Admiral Fullam stated that the Navy was thoroughly alive to the principle that the civil power is supreme in the United States, and that the Secretary of the Navy must be a civilian. It is only necessary that he should utilize the brains and ability of admirals who are always anxious to support him, and who know the technical needs of the Navy and the means of making it efficient as a fighting machine.

Educational System Old

Concerning the educational system which occupied so much of Secretary Daniels attention, Admiral Fullam stated that education had always been emphasied in the Navy; that Admiral Luce established the apprentice system forty years ago; that apprentices were instructed in academic studies, and that three admirals of the Navy had been graduates of this system—in other words, Mr. Daniels had discovered nothing new, but that his system, applied to men of mature age as regards academic instruction was irksome, and that his extreme views resulted in the present status which, is that this system is a dead letter, and the aid for education has "folded his tent and departed from the Navy Department."

Admiral Fullam quoted the declaration of a captain of the French Navy that the throttling of French naval officers as compared with British naval officers had contributed greatly to the inefficiency of the French Navy, and he declared that the order to Admiral Fiske that he, Fiske, "could not say that two and two made four," and the severe reprimand of Admiral Knight for reading a splendid paper on naval reorganization before the Efficiency Society in New York, tended to establish autocratic instead of democratic policies in the United States Navy and was thoroughly inconsistent with Mr. Daniels' claim that he sought to democratize the Navy.

The Admiral stated that it would be a most unfortunate policy to establish the rule that naval officers must say "yes" when the Secretary says "yes," and "no" when the Secretary says "no;" that this would breed an unfortunate condition of mental and professional subservience which would inevitably result in placing mediocrity upon a pedestal and in throwing brains and ability into the discard. Admiral Fullam stated that he informed the Secretary that he was entirely mistaken concerning his ideas of the attitude of officers toward their men. That no employers of men in civil life began to take the personal interest in their men that naval officers did, and he referred to the act of Rear Admiral Huse in jumping overboard in New York harbor to save the life of an enlisted man.

Referring to the public statements of Mr. Daniels that there was a condition of caste and aristocracy in the Navy which he intended to abolish, Admiral Fullam declared that these charges hurt and offended the officers of the Navy, and being thoroughly unjust, they cut very deeply and caused a feeling of universal resentment and enmity which was permanent and lasting. This condition, he declared, was a serious injury to the morale of the Navy. He declared that there was neither caste nor aristocracy in the Navy, and never had been, but that there were certain traditions which had been established by John Paul Jones, Decatur, and Rodgers, perpetuated by Farragut, Porter, Sampson and Dewey, Evans, Mahan, Schroeder, Wainwright, Brownson, and men like them, and that if these traditions were denounced and wrecked, the Navy itself would be inevitably wrecked.

Senator Trammell stated that he had gathered from Admiral Fullam's statement that naval officers were considered infallible and that the opinions of civilians were discounted. Admiral Fullam disclaimed the intention to make any such point, but simply stated that he considered that naval officers' idea of duty was perhaps higher than that of people in civil life, especially as regards the Navy, and that all naval officers wished was that their abilities and knowledge should be utilized.

Admiral Fullam declared that naval officers preferred a civilian Secretary rather than a military head of the Navy Department, and that they would at all times rally around him like a band of brothers, in the promotion of measures that would render the Navy efficient as the first line of the Nation's defense.

Disagree With Sims

Admiral Hugh Rodman, who commanded the United States battleship forces attached to the Grand Fleet during the war and who is now in command of the Pacific Fleet, and Admiral Henry D. Wilson, who commanded the patrol force in American waters at the beginning of the war and afterward was commander of the American forces based on Gibraltar, and later still of the American naval forces in France, and who is now Commander-in-Chief of the Atlantic Fleet, both testified that the Navy's battleships were better prepared at the outbreak of the war than ever before. They took distinct issue with Admiral Sims, but under cross-examination they agreed that the Navy as a whole lacked many factors of complete readiness for war. Admiral Rodman, at the conclusion of the questioning, said: "Why don't you ask me about the present state of the Navy? I will tell you it is very poor." Admiral Wilson said the mistakes made during the war were so relatively unimportant that they are hardly worth considering.

What Admiral Fletcher Didn't Say

Admiral F. F. Fletcher who was in command of the port of Brest at the beginning of the war and who was removed from that command by Admiral Sims after the "Antilles" had been sunk on its return voyage from France, testified that the United States Navy although not well prepared to enter the war was, "notwithstanding its shortcomings, just as well prepared as any other navy in the world when the great war burst forth." In this connection he called attention to the "scathing criticism by Sir Percy Scott as to the defects and unpreparedness of the British Navy." He also stated that Admiral Sims' contention that all available anti-submarine craft should have been sent to European waters immediately after the outbreak of the war appealed strongly to the impulse for the initiative and the offensive and was in accordance with sound military principle, but that there were other considerations demanding that these small craft be kept in home waters.

In over an hour's cross examination, Admiral Fletcher frequently avoided direct answers to Chairman Hale's questions. After the hearing ended at noon Saturday, April 10, Admiral Fletcher left in company with Senator Pittman and Admiral Wilson, and the following conversation ensued:

Admiral Fletcher: "Did he make me say anything that I shouldn't have said?"

Senator Pittman: "No, not a thing."

Admiral Wilson: "No, sir. You make a bully witness. He did not make you say a thing."

What things Admiral Fletcher had to say that he "shouldn't" is purely a matter of conjecture and the incident is narrated for what it is worth.

Admiral Fletcher's testimony was interrupted to hear from Admiral Washington, who is Assistant for Personnel.

Washington Concerning Personnel

Admiral Washington testified as to the deplorable condition which exists today with reference to both the officers and enlisted men—or rather the lack of them—in the Navy.

Admiral Washington drew the following picture of Navy personnel today:

There are 3,765 officers short and 68,000 enlisted men short of the personnel to properly man ships and shore stations. This needed personnel is authorized, and although more men are engaged in recruiting than ever before, the recruiting service is meeting with poor success and the monthly discharges for enlistment expirations for dependent families and the desertions amount to considerably more than the number of new recruits secured. The Navy now reduced to critical needs is still on the down hill slide.

What this situation means in fighting efficiency can be readily seen when it is realized that the dreadnoughts should have at least 1,500 regular officers, whereas at present they have only 900. This situation will become increasingly acute because within the next three years the Navy will launch eighteen of the largest and most modern ships of the line in the world with a complement of nearly 1,500 more officers. All of the early battleships are in reduced commission because of the 1,500 officers which is their complement, only 440 can be spared to keep them from rusting and corroding beyond use. The cruisers are in a still more deplorable condition. Of their complement of 1,800 officers only 200 are on board them. Eight hundred and seventy-five officers command 165 destroyers which should have 1,800 officers. The 88 submarines rating 1,500 officers have but 270.

The situation concerning enlisted personnel is as dark. Just as it takes many years to make a competent naval officer, it also takes years, though not so many, to make efficient Petty and Chief Petty Officers. But it is these very non-commissioned officers who are leaving the service upon the expiration of their enlistments and—what shows demoralization of Navy spirit still more—petty officers are de-

serting in numbers unheard of before.

The present rate of desertions is appalling. There were 898 desertions in January this year, of which 103 were petty officers and 13 chief petty officers. Notwithstanding that the Atlantic Fleet was at sea during the month of February, there were 765 desertions including 60 petty officers and 7 chief petty officers. March desertions exceeded 800.

MARITIME SECTION

THE Annual Dinner of the Maritime Section of the Navy League (New York City) was held at the Arkwright Club, Monday evening, March 23, 1920.

A splendid dinner was served to the many members of the Section and their guests.

Before the speakers on the program were called upon by Mr. Reginald Fay, who acted as toastmaster, a short business session was held, at which the following officers were elected: Chairman, Reginald Fay; Vice-Chairman, Joseph J. Glatzmayer; Treasurer, John V. Barnes; Secretary, Ernest Stavey; Chairman of the Board of Directors, William Harris Douglas.

Col. Henry Breckinridge, President of the Navy League, was the principal speaker of the evening. He outlined the present policies of the Navy League and briefly stated the need for the continuance of such an organization of civilians who have the future of the United States Navy and the merchant marine sincerely at heart.

Mr. W. F. Thompson, editor of the *Marine Journal*, spoke of the way the Shipping Board successfully recruited 25,000 American youths for service on merchant vessels during the war and spoke gratefully of the assistance rendered him by the Navy League when he was conducting the publicity work of the Shipping Board.

Mr. John H. Burroughs, President of the New York Chapter, Sons of American Revolution, spoke of the work that the Navy League had accomplished, that had come within his observation.

Capt. Byron L. Reed, of the United States Coast Guard, gave a very interesting account of his duties and numerous things which he was called upon to perform.

Mrs. Reginald Fay read a very moving poem, "The Navy."

SEA POWER

Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of August 24, 1912, of SEA POWER, Published Monthly at Washington, D. C., for April 1, 1920.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Clarence Ousley, who, having been duly sworn according to law, deposes and says that he is the Editor of SEA POWER, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

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(Signed) CLARENCE OUSLEY.

Sworn to and subscribed before me this 23d day of March, 1920.

(Seal) GEO. W. LINKINS.

(My commission expires April 2, 1924.)

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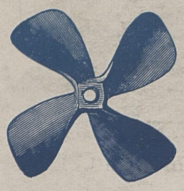

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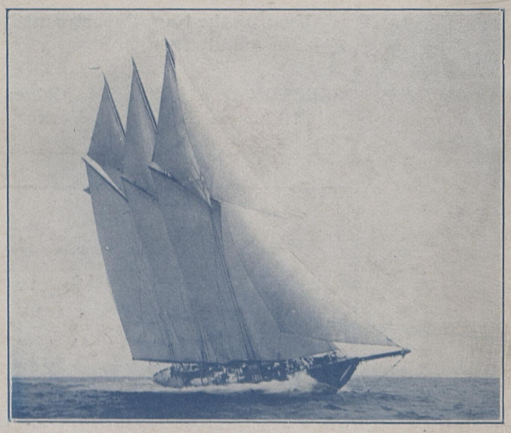

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